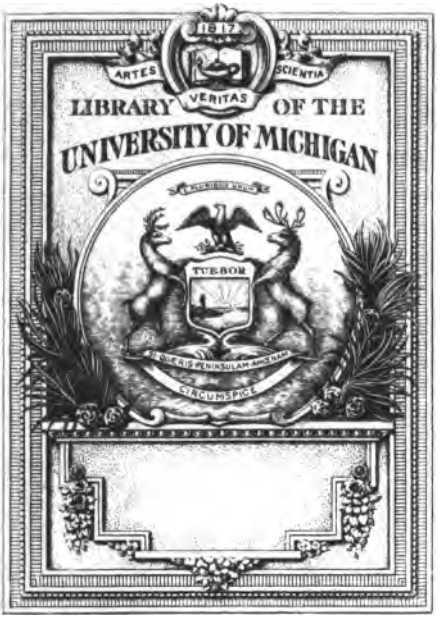
How to Paint Photographs

Ayres



THIRD EDITION.

HOW TO PAINT ..

PHOTOGRAPHS

IN

WATER COLORS

AND IN

OIL.

ALSO,

HOW TO RETOUCH NEGATIVES.

A PRACTICAL HAND-BOOK DESIGNED ESPECIALLY FOR THE USE OF STUDENTS AND PHOTOGRAPHERS, CONTAINING DIRECTIONS FOR BRUSH-WORK IN ALL KINDS OF PHOTO-PORTRAITURE.

BY

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There is no degree of talent so small that proper instruction may not develop it.

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PREFACE.

IT is not without a feeling of extreme gratification and thankfulness that I am enabled, by the cordial welcome and uninterrupted sale which this little hand-book has already received, to offer to the photographic profession the THIRD EDITION, revised, enlarged, and I hope, improved.

Having received many assurances that my previous labors have not been in vain—in developing a love for the beautiful in our art, and exciting the ambitious to further excellence—it has been my aim to leave nothing unwritten which I believed could in anywise help the student in the attainment of *practical* ability.

To this end, and also in compliance with the expressed wishes of many, I have added a supplementary part comprising instructions for painting photographic portraits in *Oil* colors.

The subject of Retouching Negatives, which was treated somewhat briefly in my Second Edition, has been greatly enlarged upon, in order to render its teachings commensurate with the importance which this process has assumed in the present advanced status of photography.

Other chapters upon *new* topics connected with the subject of photographic painting are introduced, which, together with the alterations and additions—as indicated by the increased number of pages—will, I trust, prove acceptable in this as in past editions; and enable the book to continue its usefulness as the *standard manual* for teaching "How to Paint Photographs."

G. B. A.

INTRODUCTION.

No *book* ever made a *painter*, or ever will. Neither can Art be taught *practically* by books, but *the written experience of others* may lend important *assistance* to the student who undertakes the task of SELF-TUITION. This is particularly true if he is gifted with such powers of perception as enable him to *understand*, without any further aid, the instructions which are presented.

There are hundreds of instances,—especially outside the cities,—where *books* are the only available means of obtaining this kind of information; and it is hoped that this little work will be found sufficient for, and meet the expectations of, the many who cannot enjoy the greater advantage of having a teacher.

Doubtless there are photographers in many parts of the country who have orders for painted and retouched work, but who have not the opportunity of committing their pictures into the hands of regular artists. At the same time they may *themselves* be possessed of a degree of native genius which only needs direction and encouragement to enable them to do at least *some* of their brush-work. Indeed there is no good reason why every competent photographer, who has an inherent talent and aptness for picture-

making, should not—in addition to the operations of the camera and dark-room—become tolerably proficient to do *some* of his ordinary coloring; and by study and practice, a considerable proportion.

"Very erroneous ideas," writes a distinguished painter, "are entertained regarding the capability of the mind to acquire correct perceptions of color, and to realize them in artistic effects. Too much is ascribed to genius, and too little to study and perseverance. Both *the appreciation of color* and *the power of expressing it* are doubtless ATTAINABLE BY EDUCATION; and under proper direction, the laws relating to harmony of color may be as readily understood and practiced as those relating to perspective when representing forms without color; the pursuit demanding nothing more than the general capabilities required in the study of the latter. But the student who desires to attain *excellence*, must devote his time and labor with that untiring energy which a love of the art can alone excite."

In preparing this volume we have assumed that the majority of those for whose use and improvement it is more especially designed, have no desire to acquaint themselves with the *philosophical* minutiæ of the art of painting the human countenance and form, as based upon the *correct* standpoint of an original creation upon white paper. The photographic image already provided obviates this necessity; and hence our teachings will be found *simple* and *practical* in regard to the separate matter of COLORING,—while we leave the profounder aspects of the subject to be studied by the more ambitious, from other and higher sources.

Practical photographers are not, however, the only persons for whom this book is designed. There are *many others* who wish to try Photographic Painting as a recreation, or to pursue it as a livelihood—especially women; but the inconvenience and expense of tuition at the hands of competent instructors (to be found only in the cities), clearly *proves the necessity* for *a standard book* as the next best means of gaining the desired knowledge.

To such it is believed this work will be really acceptable; and our sincere hope is that it will be found sufficiently plain and *practical;* comprehending *all* that is necessary to render this delightful study *easy*, and furnishing one more stepping-stone to artistic and personal advancement.

NOTE.—We have not deemed it to be inconsistent with our plan of practical instructions to introduce the brief chapters which precede the List of Colors (p. 24), since a knowledge of the matters contained therein is essential to an *intelligent* selection of the same, and handling of the brush afterwards; but as they may be thought rather abstruse for *the beginner*, a thorough *study* of them can be *deferred* until a certain degree of *work* has been accomplished, although they *should be* CAREFULLY READ *at the outset.*

CONTENTS.

How to Paint Photographs.

THIRD EDITION.

Classification of Colors.

It is proposed that this work shall serve as a guide to labor, rather than an index to philosophy—to teach the student *how to do*, without cumbering his mind with *the reasons why*.

Hence, it will be expedient only to briefly record here certain recognized, important and interesting *facts* respecting the nature of colors, and recommend to the student a further, and more complete investigation of colors—their qualities, and innumerable effects of contrast and harmony—as it can be found in books specially devoted to this subject.

Notwithstanding the assertions of the old philosophies about the "*seven* primary colors," there are indeed but *three*, viz.,

Red—Yellow—Blue,

and these are termed *Primary* (or *Simple*) colors, because they are the source whence all others are derived by mixture.

The combination of any two of these, in equal parts, pro-

duces another class termed *Secondary* (or *Compound*) colors. Thus:

Red and Yellow make Orange,
Yellow and Blue make Green,
Blue and Red make Purple.

A further combination, in pairs, of the Secondary produces a third class designated *Tertiary* (or *Mixed*) colors. Thus:

Green and Orange make Citron, or Citrine,
Orange and Purple make Russet,
Purple and Green make Olive;

each of which is variously compounded of the *three* original or primary colors—as the secondary order is of *two*—one of the primaries, however, predominating.

A fourth class may be added, and designated *Irregular Colors;* under which head is included the long list of browns, grays, various neutral tints, drabs, stone colors, etc. These have also received the name of *Semi-neutral Colors.*

☞ It will be observed that whilst each combination of two primary colors produces a new and perfect hue, each subsequent combination tends to produce *neutrality;* the neutral tints formed partaking, however, more or less of the special characteristics of the primaries to which they are most allied.

White and Black, which most completely contrast as light and darkness, are not generally regarded *as colors:* White, as the representation of pure daylight in its undivided state, being supposed to represent a combination of all colors; and Black, like darkness, or the absence of both color and light. However, they hold an important place in almost every picture, having their own effect, when in combination with other colors.

Normal Gray is black mixed with white in various proportions, originating numerous *tones* of pure gray. Grays

also result from the mixture of all three primaries in various proportions, and these are designated *Colored* grays.

Complementary Colors.

A mixture of any two of the primary colors, forming a secondary, this secondary is *complementary* to the remaining primary color. Thus,

Orange produced by Red and Yellow, is complementary to Blue;
Green, " Yellow and Blue, " " " Red;
Purple, " Blue and Red, " " " Yellow.

The combination of any two secondary colors will produce a tertiary, which is *complementary* to the remaining secondary. Thus,

Citrine, produced by Orange and Green, is complementary to Purple;
Olive, " Green and Purple, " " " Orange;
Russet, " Purple and Orange, " " " Green.

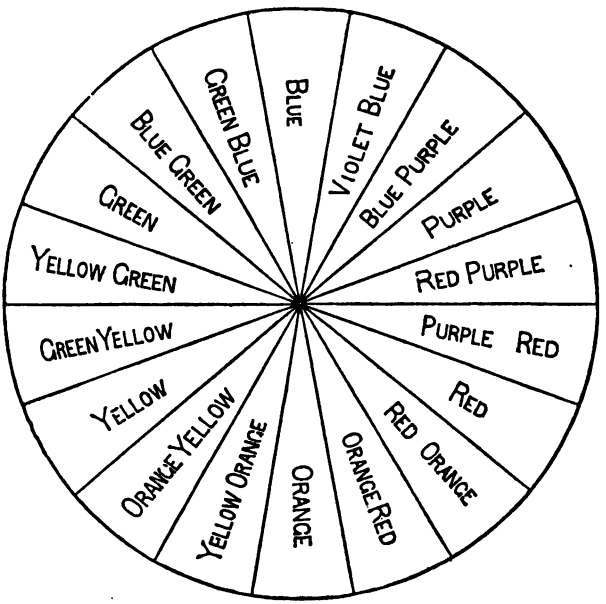
These combinations may be carried to an almost unlimited extent with similar results; for this relation of colors is not arbitrary, nor the result of taste or fancy; but it is founded upon absolute inherent principles which exist as a physical necessity of the organs of vision.

Black and White are also to be regarded as complementary to each other.

We have thus far explained the term "complementary" with reference only to colors in their primary signification—treating red, yellow, and blue, without regard to the various gradations of hue which each color possesses. But the principle which governs the relations of the simple primaries applies also to every variety and combination of tint; and which could be multiplied by gradations so delicate that it would be impossible to enumerate them.

The following diagram of the complementary relations of colors is furnished as a ready-reference for the student, and is subdivided far enough for ordinary purposes.

☞ *The complementary of each color will be found in the angle directly opposite:* whilst it will be observed that each pair yields a harmonious balance of three primary colors.



Contrast

Is *the source of all character and effect* in color, as in every other division of the art. No tint will appear very bright unless set off by an opponent, and by this treatment, *effect* may be given to any color; but the shadows must all partake of the same negative tone, and that should be the natural antagonist of the general hue of the light, which again must be gently diffused over local colors, in order to tinge with the same atmosphere, and give truth and union to the whole.

The matter of Contrast embraces several points, but it

will suffice here to mention only Contrast of Color, and Contrast of Tone or intensity.

Contrast of Color.

By this it is meant that, complementary colors placed in juxtaposition mutually enrich each other; and from the same cause, neutral tints placed in juxtaposition with full hues appear to be tinged with the complementary color of such hues. The converse is equally true: that colors *not* complementary to each other are mutually injured by contact. It is obvious, therefore, that neutral tints placed in contact with full hues, should incline to the complementary of such hues, in order to produce the best effect.

Contrast of Tone

Results from placing side by side two tints of the *same* color, but of different degrees of intensity or depth; from which the deep tint will appear still deeper, and the light tint still lighter—the difference in intensity appearing greatest at the points of contact. All colors gain depth by contact with White, the white assuming the complementary tint of the color near to it; whilst Black has the effect of weakening colors contiguous to it. The juxtaposition of Gray, which is a mixture of white and black, gives brilliancy to all *pure* colors.

Therefore, the student will see that he has the power of changing the very characteristics of pigments by simple juxtaposition; he can either enhance the value of both, or sacrifice one and exalt the other; and in cases where a pleasing *ensemble* is not presented by his model, he can adapt the colors he is at liberty to choose to those which are inherent in the model, so as to arrive at a satisfactory and harmonious effect.

Without pursuing this subject beyond the limits of these general principles—(as we might, and show that an infinity

of pleasing results can be obtained by the judicious arrangement of analogous tints in harmonious relations)—the student is advised to a further examination of those works which treat upon the *science* of colors, minutely and philosophically. For this reason, space has not been occupied to explain *why* these things *are so;* it is our aim to make *this* book a simple *guide* to practical *working*, and not an exposition of philosophical color-mysteries.

Peculiar Characteristics of Colors.

The primary colors are suggestive of various ideas, according to particular circumstances. Thus, painters have agreed to call red and yellow and their mixtures *warm*—giving notions of light and heat. They also *come near* the eye, and are less impaired by distance than any other colors; yellow less than red, and green less than purple.

Red is the most powerful, distinct, and exciting of all colors; stimulates the eye, and predominates over all colors designated *warm.*

Yellow is the primary most closely allied to light.

Blue, and those tints of which the larger portion is blue, suggests an idea of *coldness* and *distance.*

Of the *Secondaries:* Orange being the most luminous is the most striking and prominent; the connecting link of harmonizing color between yellow and red.

Green is generally considered the mean between orange and purple, thus taking position between light and shade. It is the most soothing and refreshing, although a preponderance of it is scarcely ever truly pleasant.

Purple, coolest and darkest of the secondaries, partakes considerably of the retiring qualities of its chief primary, blue. Next to green it is the least fatiguing to the eye; and its various compounds afford most of the colored grays.

The plan most generally adopted is, that the warm colors should always be placed at the front, as having a tendency

to impress the eye more strongly, or to come more prominently forward than the colder colors; but union and harmony require that some intermixture of warm color should be put in the background, and of cold into the front.

The lighter colors also brighten those of a deeper kind; as white or yellow, put with red or blue, renders these more lively. If intermixed with them it diminishes their depth.

There are also colors which *diminish* each other's effect and *deaden* a neighboring one; others again *raise* the force of those with which they are combined—as white heightens the rose-tint of the face, and as a red turban would suit an Ethiopian.

Colors also *suit each other* from the one being warm and the other cold; as red and blue, orange and blue, brown and blue; and yet two colors sometimes harmonize with each other, as blue and white, when both are cold.

White increases the intensity of black by contrast, as black adds to the brilliancy and distinctness of white; and though white makes a red face look redder, it increases the paleness of a pale complexion. Black, too, has a similar effect.

Some colors *disagree* from their being positive discords; some fail to accord with each other from their tones being of unequal intensity, some from their proportions in quantity being too much disregarded, and some from wanting another color to complete the harmonious combination.

As an appropriate and entertaining conclusion to the entire subject of the relations and harmonies of colors, we append the following lines, which aptly embody the principles contained in this division of study. Versification being an acknowledged help to memory, the ideas contained in these lines may be easily caught and kept ever present in the student's mind.

The Relations and Harmonies of Color.

BY HENRY HOPLEY WHITE, ESQ.

Blue—Yellow—Red—pure simple colors all
(By mixture unobtained) we PRIMARIES call;
From these in various combinations blent,
All other colors trace their one descent.
Each mixed with each—their powers combined diffuse
New colors—forming SECONDARY hues:
Yellow with red makes *Orange*, with blue—*Green*,
In blue, with red admixed is *Purple* seen.
Each of these hues in *Harmony* we find,
When with its complementary combined;
Orange with blue, and green with red, agrees,
And purple tints, near yellows, always please.
These secondaries TERTIARIES produce,
And *Citrine—Olive—Russet* introduce:
Thus green with orange blended forms citrine,
And olive comes from purple mixed with green;
Orange, with purple mix'd, will russet prove;
And, being subject to the rule above,
Harmonious with each tertiary we view
The complemental secondary hue:
Thus citrine—olive—russet harmonize
With purple—orange—green, their true allies.
These hues, by white diluted, *Tints* are made,
By black are deepened into darkest *Shade.*
Pure or combined, the primaries all three,
To satisfy the eye, must present be;
If the support is wanting but of one,
In that proportion harmony is gone:
Should red be unsupported by due share
Of blue and yellow *pure*—combined they are
In green—which secondary, thus we see,
The harmonizing medium of all three.
Yellow for light *contrasts* dark purple's hue,
Its complemental, form'd of red and blue.
Red most *exciting* is—let Nature tell
How grateful is, and *soothing*, green's soft spell.

So blue *retires*—beyond all colors *cold*,
While orange *warm*—*advancing* you behold.
The union of *two* primaries forms a hue,
As perfect and decided as 'tis new;
But all the mixtures which all *three* befall
Tend to destroy and neutralize them all;
Nay, mix them—three parts yellow—five of red,
And eight of blue—then colors all are fled.
When primaries are not *pure*—you'll surely see,
Their complementals *change* in due degree;
If red (with yellow) to a scarlet tend,
Some blue its complemental green will blend;
So if your red be crimson (blue with red),
Your green with yellow would be varied;
If yellow tends to orange, then you find
Purple (its complement) to blue inclined;
But if to blue it leans, then mark the change,
Nearer to red you see the purple range.
If blue partakes of red—the orange then
To yellow tends; if yellowish—you ken
The secondary orange glows with red.
Reader, farewell! my lesson now is said.

Portraiture.

Likeness is the very essence of portraiture. Whatever may be the artistic merits of a painting which is intended to represent the countenance and figure of a valued friend, its greatest perfection must exist in its *correct likeness*. Our personal affections will always bid defiance to any rivalry from art; and hence an ordinary *but correct* portrait will elicit our admiration and love, whilst one lacking this essential point would be disregarded.

There is not one person in the world who has not a particular characteristic both in face and body. This will be patent in the drawing of the photograph itself; and while the camera produces nature truthfully—perhaps too much so for mortal vanity in general—the artist's office is to impart life and color. To adorn nature too much is doing a violence. We can imitate her with sufficient exactness,

however, and still perceive and comply with what is advantageous in art.

It is scarcely proper to undertake the coloring of a photographic portrait without first seeing the original; or if that is impossible, of ascertaining fully the principal colors to be used. Owing to the shade of blackness with which the various colors "take," the photograph itself gives very little or no indication on many points. Therefore, if practicable, secure a lock of the hair; understand by an interview with the original or from the remembrance of others, the exact color of the eyes; kind of complexion; defects or peculiarities of countenance and figure; what alterations and corrections are desired; colors for the drapery; what sort of jewelry, *et cetera.* In short, remember that knowledge and a full understanding of the subject makes work pleasant and easy; and he who knows the road gets to his journey's end with more speed and certainty than he who, through ignorance or carelessness, gropes it out.

In accomplishing a photo-portrait, the student should keep in mind *a union of the true and the beautiful.* However correctly the camera may have attained the former, it has not intelligence to discriminate and perfect the latter. The student should derive from his subject a feeling peculiar to the work before him. He must not paint all alike, and should avoid the fault of *mannerism.* In painting children's pictures, for instance, he will rather feel at liberty to idealize them—to *make* them appear somewhat beautiful and picturesque, whether they *are* so or *not*—and this license, to a certain degree, may be extended also to pictures of women, unless the photograph should render it impossible. With men's faces, on the contrary, the feeling should change; inspiration for the beautiful should give place to zeal for the delineation of vigor and strength—giving a true portrait, while portraying a distinct character.

It may be remarked that the power of *masculine* expres-

sion lies in the forehead, the under lip, the chin, and of course in the graver language of the eye. The sweetness of the *feminine* graces resides in the mouth and eyes; especially at the exterior corners of and below the eyes, at the corners of the mouth, and in the play of the lower lip. To hit the happy medium in the distinctive treatment of masculine and feminine faces is perhaps the greatest excellence in the art. In the former the student's aim should be to maintain that quality of intelligence which is distinctive of the original, without falling into severity; in the latter, the object should be to endow the photographic representation with vitality and sweetness, without carrying his work beyond the reasonable limits of delicacy and beauty.

A little experience in photographic painting will also introduce to the beginner a class of persons who may insist upon the correctness of the camera, and wish to be painted *as they are*—(or, as Cromwell said, "Paint me as I am: warts, wrinkles, and all!")—desiring no changes and wishing to see their veritable selves without flattery or qualification. It may not be improper to intimate here that these persons will be found "indifferent honest" after all; and that where the artist's better judgment suggests improvement which shall not impair the likeness as a whole, it will *not* be complained of as objectionable.

While the license of art, however, permits a representation as favorable as possible to the original, there is yet a limit to this complimentary work which should be defined by the peculiarities of each case. In instances of personal imperfection, if a sufficient portrait can be preserved without signalizing the natural blemishes which the relentless camera has reproduced, it is consistent with the rules of legitimate practice to *subdue* them; but this must be done with great discretion, for they often comprise the very climax of individuality. Hollow cheeks, a long mouth, a protruding under lip, angular shoulders and elbows, bony

hands, &c., will too frequently demand roundness and subjection to more agreeable shape.

It may also sometimes occur that alterations, which are demanded by every principle of correct art *cannot* be made, and should not be *attempted*, unless after consultation with those who are to receive the finished work. This will be found more especially the case in reproducing old pictures: these very faults which may appear rather hideous to our more artistic eyes, have become in time part and parcel of the picture itself; and nothing different from an exact copy of the long-looked-at original would be satisfactory. Very often, too, the original will prove to have been so badly taken, that it does not furnish sufficient basis for much work *according to art;* in which case the student will perceive that his touches must be few, but correct, and that just as soon as the *likeness* is reached his labor on the face must cease. Unfortunately, the deficiency of knowledge among a majority of the daguerreotypists of a former day has been the cause of much trouble of this kind to the photograph painters of the present.

☞ The propriety of the above chapter on the subject of Portraiture may not have been at once apparent—this work being designed as a guide to the painting of *photographs;* and particularly when it is remembered that the portrait has already become a fixed fact by the operation of the camera in the hands of the photographer. It is also true that ignorance of the art-elements, in producing the photographic image, cannot be atoned for by any superior intelligence of the painter. But certain *emergencies* must be provided for, and the student will, as he progresses, find it to be actually *necessary* to possess himself with knowledge on the subject of portraiture, perhaps much beyond these cursory observations; that is, if it is his purpose to accomplish fully and satisfactorily the art of photo-portrait painting.

List of Colors.

The Water Colors used in the operation of painting a photograph should be selected with care, and from those

known to be of superior manufacture. Each one should be a good type of the pigment, for they not only differ as prepared by different colormen, but even from the same house at various times.

The number of colors to be employed will, of course, depend much upon the option and the ability of the student. Certain colors are at once indispensable, whilst others, of a secondary importance, can be procured as his knowledge increases and the desire or necessity occurs.

Those which may be regarded as *essential* at the very beginning and of constant and important use in all the future, are as follows:

Burnt Sienna,
Chinese White,
Cobalt Blue,
Crimson Lake,
Dragon's Blood,
French Blue,
India Ink,
Indigo,
Indian Red,
Indian Yellow,
Lampblack,
Neutral Tint,
Pink Madder,
Raw Sienna,
Scarlet Vermilion,
Sepia,
Vandyke Brown,
Venetian Red.
Vermilion,
Yellow Ochre.

The colors which, in time, become *desirable* for use, and whose effect, in some instances, no mixture of those abovementioned will exactly produce, are as follows:

Bistre,
Brown Pink,*
Burnt Umber,
Cadmium Yellow,*
Carmine,*
Emerald Green,*
Flake White,
Gamboge,
Lemon Yellow,*
Light Red,
Madder Brown,
Orange Chrome,
Olive Green,*
Prussian Blue,
Prussian Green,*
Purple Lake,*
Purple Madder,*
Raw Umber,
Roman Ochre,
Roman Sepia,
Rose Madder,*
Scarlet Lake.*

Colors marked thus (*) are valuable for convenience, and for the obtaining of special results. There are also other pigments commonly known and often used, but of doubtful character as to permanency and working qualities, and therefore not competent to our purpose.

In addition to colors the student should be provided with hard and soft pastel, colored and gray; and some colored pencils (*Creta Lavis*) in cedar wood.

☞ It may be well also to advise that, as the cakes of color lose somewhat of their freshness by constant exposure to the air and light, becoming dry and easily crumbled, they should be kept in a covered box. One that is flat answers best, and should have a hinged lid for convenience.

Brushes and Implements.

Sable brushes are not only the best adapted to water color painting, but indispensable to the production of good work. Sables are made of black and red hair, the former being held in regard for having better points, carrying the color, and working more freely; and the latter for possessing greater stiffness, and capacity for working when body-color is used.

Compared with these, camel-hair brushes are worthless; although it is desirable to have a few of large size for use in broad washes where smoothness is required; but they are deficient in the elasticity requisite for other purposes. A *flat* camel-hair brush, in tin, is also useful and necessary, not only for laying broad washes of color, but for damping the paper, when necessary, before washing—as well as for softening, where the effects may be too harsh and heavy.

It is vastly preferable to use brushes which have the hair inserted in ferrules instead of quills, on account of their not being liable to split,—a fault rather common to quill brushes,—while they also derive much value from the circumstance that they admit of being made so effective in a

broad *flat* shape, and well adapted to working backgrounds, skies, foliage, etc.

In the purchase of brushes, test them by dipping into clean water; see that they readily come to a point, and have no straggling hairs about them. *Good* sable brushes, when completely filled with water, will allow you to suddenly fling off the water and instantly spring back again to a straight point! In working, all brushes, whether round or flat, *should* return to their original shape after every stroke.

Be particular to obtain *good* brushes, for superior work cannot be produced with inferior ones. In time the original points will become blunt from constant use, and unfit for manipulating the finer touches; but they will yet be found well adapted to different grades of stippling and for the larger and heavier parts.

It is recommended as a general thing that the student should cultivate a disposition to use the larger-sized brushes as far as his work renders it practicable, in order that he may acquire freedom of breadth and firmness of touch. Avoid mincing, and a harsh, line-like manner in the work.

PALETTE, ETC.—Palettes, and tiles with divisions, made of chinaware, can be purchased and will be found convenient. It is also desirable to have a number of small-sized smooth white cup-plates, or saucers, in which to mix the larger washes. In the absence of all these use a common white plate.

Do not use glass, for this is too smooth to grind off the color; and being transparent, it prevents one from judging the exact amount or depth of color wanted.

OTHER IMPLEMENTS.—It is necessary to have flat *Drawing Boards* upon which to fasten the card-mounted photographs. The most convenient method of doing this, for the smaller sized pictures, is with *Thumb Tacks*. The Boards should be made of well-seasoned wood, entirely free of knots, and are essential, whether the work be done at an

Easel or upon a table. The Boards should have their corners perfect right angles and edges true, so that in using the *Square*, the lines will be thoroughly and geometrically correct.

A piece of clean paper—especially if the drawing-board be used upon a desk or table—should be kept over the lower part of the work, on which to rest the hand and forearm while painting; otherwise it may become greasy or soiled by the hand (especially in warm weather) and not receive the color well. The whole surface—vignettes particularly, where there is so much white margin to weary the eyes—should be masked, and the working done through an opening in the centre. The ordinary "Filtering Paper" serves admirably, is a pleasant gray to the sight, and is very convenient for pointing and draining the brush. Several masks of various sizes and openings should be kept at hand.

The use of the *Easel* is greatly to be preferred, and to support and steady the hand upon a *Flat Ruler* or a *Rest-Stick*. This position is not only more healthy than any other, but it enables the student to see more of his work. Instead of leaning over the picture if it be upon a table, it can be brought close to the eyes, whilst the student sitting between the legs of the easel is not prevented from assuming a comfortable and erect position. The easel also permits the work to be placed at whatever inclination and height is necessary—advantages not to be overlooked when very large pictures are to be taken in hand.*

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* In *my own* practice I use an Easel, sit in a strong arm-chair, and have my materials upon a small table at the right side. By this I not only secure the good posture and facilities which the easel affords, but an advantage of the table also; for, in making large washes, rubbing on pastel, or doing anything that requires horizontal support, I rest the bottom of my drawing-board on the arms of the chair and the top on the easel-pins, and thereby obtain whatever inclination of my work is necessary. The flat ruler (say three feet long and two

A *Right Angle*, a T *Square* with bevel head; together with a *Ruling Pen*, and *Compasses* (Dividers) with pen and pencil shanks—are all necessary instruments for drawing in panelled backgrounds, columns, doors, windows, balustrades, and other accessories which require mathematical and architectural precision.

An *Eraser*, a *Crayon Stump*, and *India Rubber* (white preferred), suggest their uses respectively. The latter can now be had encased in wood, like a pencil, and which, being sharpened, affords an apt instrument for taking out delicate lights. A small *Spatula* or palette-knife will be found most convenient for reducing to powder and mixing the shades of pastel. A *Magnifying Glass* of some kind is almost indispensable, not only to assist—and consequently *save*—the eyesight in minute working; but also to serve for the examination of original pictures when indistinct or very small, and of which a copy is to be painted or retouched. The magnifier should be of a good size and provided with a handle so as to be held conveniently with the left hand while working. In coloring Porcelains it can be made particularly serviceable, facilitating the operation and affording an easy means of producing exquisite fineness.

Gum-Water and Ox-gall.

Gum Arabic, in solution, will be necessary for use in improving the deep shadows of draperies, giving brilliancy to the hair, eyes, for "touches," and other purposes. Although a variety of things have been used for this end, gum Arabic is the *best* adapted for general use with water colors. It does not degrade the more delicate pigments, and yet bears out the more positive colors well.

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inches wide), laid across the easel-pins, makes an excellent support for the weight of the arm during the tedious operation of stippling, and in general when engaged upon small-sized work.—G. B. A.

The strongest gum-water ever necessary may consist of one part gum and three parts of pure water, though it will more frequently be used much weaker. Gum should not be mixed with water containing any mineral properties. The solution may be preserved for use by adding a little Alcohol reduced fully one half with water; or by the addition of a small portion of the carbonate of ammonia; one scruple of the powdered carbonate to an ounce of the gum, dissolved by maceration in two or three ounces of cold water.

As will be learned hereafter, the gum-solution is not to be applied until the coloring is entirely finished; and then sparingly, as an excess of it is not only likely to crack, but it gives a vulgar effect.

The making of photographs on *Albumenized* paper has become so universal that, unless special directions are given (or it is previously understood that the picture is to be painted) they are never made upon what is designated "plain" (or *not* albumenized) paper. Hence, if the photograph in hand be one of the former description, it will be found that the water-color will neither sink into, nor even flow upon, the albumenized surface. To remedy this difficulty, *Clarified Ox-Gall*, prepared for this purpose, should be used to "kill the grease," and it is necessary to mix but very little with the colors. A simple dip of the tip of a brush into the preparation will suffice.

It will be found that the ox-gall combines readily with the coloring matters and gives them solidity. It increases the brilliancy and durability of Ultramarine, Carmine, Green, and delicate colors generally. If mixed with gum-arabic it thickens the colors without producing a disagreeable glittering appearance; while it also prevents the gum from cracking, and fixes the colors so well that others may be applied over them without degradation.

[A coat of ox-gall put upon drawings made with black-lead or crayons renders the lines ineffacable, and may be painted

over safely with colors that have been mixed with the same ox-gall.]

Although it is indispensable in washes, it is not *necessary* for color which is to be stippled on; a little Gum Arabic should be used instead. Never use it in color intended for "plain paper." ☞ *Wash the brushes well* after working with ox-gall.

Pure Water.

It is essential to use water that is entirely free from ingredients which would be hazardous to the purity and permanency of the colors. In all hard and impure waters the colors are disposed to separate and curdle, so that it is often impossible a clear flowing wash or gradation of color can be obtained with them. The purest and best for the purpose are distilled and rain waters, by the use of which all chemical action is avoided.

Arrangement of the Light.

The window through which the light is admitted to the studio and upon the work should be at the *left* hand, and rather to the rear than front. However, whilst it be arranged rearward to avoid light in the eyes, be watchful also that the head shall not in the least degree shade the work.

A window facing north is the best, on account of its avoiding direct sun*shine* whilst it furnishes an even sun*light*. A high window is also better than a low one, and the light should be made to enter from its upper half or third part; the remainder being covered by a dark curtain which should be raised or lowered according to circumstances.

It is not good to work in a very strong light; it will beget extreme particularity and hardness of effect, while a more subdued light is likely to induce breadth and softness. This is especially the case with large pictures. Another advan-

tage of subdued light will be apparent when working up very bad copies; the *location of half-shades* can be discerned, the presence of which would not have been suspected at all in a stronger light. Indeed the size of the work in hand should always govern the movable curtain.

An excellent shield for the eyes is afforded by wearing an oval-shaped piece of light card-board, in which an opening has been made to fit the head comfortably, the rim being wider in front.

Pigments, their Qualities and Adaptations.

Concerning the colors—a list of which was given in a previous chapter—it is very necessary to inform the student respecting some of their more prominent characteristics and particular uses. While these directions, obtained from the experience of others, may serve as *a basis* of operations, the student is still expected to complete the work by his own practical discoveries. In so doing, he will be surprised to find that the uses of a color upon clean white paper *cannot always* be taken as a criterion for its application to a photograph; and that, indeed, the photographic base will sometimes totally defeat an effect which, on white paper, would be easily achieved. So that beyond all here written, there remains necessarily a conclusion which *he* must give to this chapter.

Having already classified the colors with respect to their importance and desirableness, they will be referred to in alphabetical order, as follows:

BISTRE.—A fine brown color that washes well, is permanent, and has a clearness which is well adapted to architectural subjects. It is applicable for the shadows in flaxen hair, on account of its slight inclination to green, and for general shadows of light brown hair.

BROWN PINK.—This orange-green color is a vegetable

pigment and almost indispensable in landscape, affording many rich foliage tints for foregrounds. It may be modified with Burnt Sienna; and if a little Indigo be added, a warm green is produced. It can be used in flesh to bring up very dark shadows, if such exist in the photograph; combined with Pink Madder it forms a valuable flesh shadow-tint.

Burnt Sienna.—A very rich, transparent, and powerful orange-russet color, sometimes admitted into warm or very dark complexions, and is much used in every branch of water-color painting. It serves for the shadow tints of amber-colored draperies; and in painting out-door scenes or landscape backgrounds it yields fine olive greens by admixture with Indigo, or any of the deeper blues;—these tints may also be saddened into fine olive neutrals by the addition of Sepia. It is inflexibly permanent and washes and works with great facility; can be used for deep lines in the flesh—as between the fingers, wrinkles in shadowed parts, etc.

Burnt Umber.—A quiet reddish-brown color, affording clear and warm shadows. It is apt to look rather turbid if used in great depth, but it washes and works beautifully and is indispensable in buildings. It is a very useful color for some of the lighter shades of brown hair, for curtain-draperies, and for the deep shadows of gold.

Cadmium Yellow.—A splendid glowing orange yellow whose durability can be relied on. It is extremely brilliant and nearly transparent, which qualities make it invaluable where a gorgeous effect is to be produced. It is the very best vehicle for obtaining orange tints, works and washes well, and is the most serviceable yellow for rich draperies; but it is rather too powerful for flesh, or at least should not be used unless its effect is thoroughly understood.

Carmine.—This well-known, brilliant, deep-toned, crim-

son possesses great strength in its full touches and much clearness in its pale washes—although not equalling Pink or Rose Madder in this latter quality. It flows and works extremely well, but it is even *more fugitive* than Lake; owing to which qualities the propriety of using it *at all* in flesh tints is very questionable whilst the Madders can be recommended to supply its place. Its use should be confined to drapery and brilliant touches, although for the sake of strict durability it is best to "choose the lesser evil" and be content with Crimson Lake. When used, however, shadow with Lake, lowered with Sepia for the heavier tones. Brilliant lights can be obtained by delicate touches of red crayon or pencil.

CHINESE WHITE.—This very eligible material derived from the oxide of zinc, is of the greatest importance to the artist in water colors. It is prepared beautifully white, and possesses the desirable quality of dense body; so much so that it does not change in drying, and the painter's effects remain unaltered. It works and washes with great freedom, either by itself or in combination with other colors; has no pasty or clogging qualities, and its permanency is unquestionable. It is deemed so very superior to the imperfect whites formerly in use that it has been universally accepted as the most valuable white pigment. When used in its pure state its shadows ought to be cold. Mixed with local colors, it is the means by which *high lights* are generally produced. In portraits, its use is chiefly confined to the white spots of the eyes, to the finishing of laces and the linen, and highest lights on gold ornaments, etc. It is also useful in correcting errors, and (if used in an extremely limpid state) for heightening complexions when the photograph is too dark.

CRIMSON LAKE—Is a beautiful transparent red similar in its character to Carmine, but lacking the extreme richness and brilliancy of the latter. It is generally useful in all

departments of the art, but especially so in mixing the purples and other colors for draperies. It is not classed among the strictly permanent colors, and would be more durable if covered with a coat of Gamboge, but in this case it is likely to change from crimson to scarlet. Lake and Sepia form a good compound for the lines of the eyelids, nostrils, between the lips, fingers, and deep touches of the flesh generally, as well as for constant use among the draperies. It is a source of regret that a pigment of such various use and application, possessing such desirable working qualities and excellent hue, should not also be *strictly* durable.

COBALT BLUE—Is a pure, bright, azure color, nearly transparent, and the *only* blue pigment recommended for obtaining the grays and pearly tints in flesh. It is a very useful color in every respect, works well, and is quite permanent. With Indian Red it forms a standard shadow-tint for flesh; with Brown Madder it affords a range of fine pearly neutrals; and with Light Red in any proportion it gives beautiful cloud-tints. It affords clear, bright tints in skies and distances, but is lacking in depth. It is slightly turbid when used as a strong wash, in which case French Blue would do better. Cobalt and Yellow Ochre may be neutralized with a little Lake, into a most beautiful and useful gray; and with Sepia, one of heavier tone. Cobalt, very slightly tinged by the addition of Gamboge (this only) makes a beautiful greenish-blue cloud-wash for vignette heads—especially good for children.

DRAGON'S BLOOD.—A deep, yellowish red, not in very common use, but of great advantage to those who understand its capacities. As a first-wash for a crimson curtain it gives a mellow tone of exceeding richness; is important in obtaining the various hues of "wine color;" and is otherwise a very useful red. When applied as a local color, shade

with Crimson Lake, adding Sepia for depth. It may be also used for giving a warm tone to India Ink, and when so used, a very little Indigo improves it still further.

EMERALD GREEN—Is a vivid hue, for which no mixture will answer as a substitute, and which instantly attracts the eye to any part of the picture where it is used. It is very serviceable for the high lights of green stones in jewelry, for lights and touches on silks, curtains, and carpets; and has the effect of toning down at once, by force of contrast, all other shades of green near it. Mixed with Gamboge, very limpidly, it may be sometimes used as a wash for ladies' and children's dresses—the high lights for which should have Chinese White added to the local color.

FLAKE WHITE—Is the next most valuable to Chinese White. It does not possess the great body which characterizes the other, and cannot therefore be used for very heavy effects. Its lighter quality, however, renders it valuable for delicate touchings and fine handling—especially for remedying objectionable spots in the flesh or increasing its lights. When a great deal of white drapery is to be painted it can be used with much advantage, as it allows the more potent Chinese White to be reserved for the laces and stronger effects.

FRENCH BLUE—Is much darker than Cobalt, strong in color, and nearly transparent. It resembles the tint of, and is considered a good substitute for, the real Ultramarine; and although not so pure and vivid, is more generally useful. It washes and works satisfactorily, but should *never* be used for grays in flesh in place of Cobalt. It is well adapted to figures, landscapes, and draperies; and in the latter office requires deep shadows, subdued with warm browns. It is inferior to Cobalt for aerial effects, and has a slight tendency to purple, which can be neutralized by adding a small quantity of Prussian Blue.

GAMBOGE.—A very bright and transparent yellow gum, inclining to green, and highly useful. It flows well, and the resin which it contains forms a kind of natural varnish which aids in preserving its color. It is too "brassy" to be used in flesh-washes. In landscapes and for draperies, it forms, in combination with Indigo, and French or Prussian Blue, a great variety of clear and cool greens; and with Sepia or Lamp Black, a very sober tint. Adding Burnt Sienna or Brown Madder to these greens, rich and easily-varied autumnal hues are produced. It should not be used for distant tints. It is not entirely permanent, but is nevertheless one of the best yellows for making greens, especially when the green is to be worked upon a rather dark base, such as the covering of photographic chairs. No other yellow overcomes the blackness so well. With Indigo and Lake it also produces gray and black.

INDIGO—Is a vegetable pigment of a deep, very slightly greenish blue, and a very useful color in compound tints. It is clear in all its shades, washes and works well, and is thoroughly reliable. Indigo is indispensable in landscape, and with Gamboge, Raw Sienna, Burnt Sienna, Roman Ochre, and Yellow Ochre, it gives clear sober greens;—with Sepia it makes a retiring green for distant trees. It is also a useful color for backgrounds when considerable depth is desirable. Indigo, Sepia, and Crimson Lake or Dragon's Blood form the best compound for black cloth drapery; and with these any tone desired can be obtained. Warmed with Lake it is also a good color for dark blue (military) cloth. Indigo and Carmine make an excellent purple, and better adapted for draperies (being less gaudy) than Prussian Blue and Carmine. Indigo and Yellow Ochre, neutralized by Crimson Lake, make a fine strong gray, very useful for deep tones in clouding and for a local wash in solid backgrounds.

INDIAN RED.—A very durable earth of a purple russet hue and good body. When rightly used, it produces fine clear tints in flesh, and when mixed with Cobalt it is one of the standard ingredients for the deeper flesh-shadows. It is much used for grays when mixed with Cobalt or Indigo, and neutralized by a little yellow. It is serviceable alone in painting the upper lip, which being usually in shadow, requires a dull red, although it often becomes necessary to enliven its tone with a little Crimson Lake. Some of the lighter flesh shadows and many of the lines—especially of children—may be done with it, but with delicacy.

INDIAN YELLOW—Is a rich, intense, golden color, much used for draperies, and possessing greater body and depth than Gamboge, forms, in combination with the same blues, a variety of more intense and lively greens. It is quite permanent, and washes and works to perfection. Its fine qualities cause it to be employed very generally in the flesh-washes, mixed more or less with Pink Madder and Venetian Red. It may also be used for warm skies, and, mixed with Chinese White, gives a durable and brilliant high light for gold. Being very powerful and gaudy, care should be used in its application.

LAMPBLACK.—An opaque black, not quite so intense or transparent as the old Ivory Black, but it is less brown in its pale tones. It has sufficient strength of body to obliterate every underlay of color, and is good for mixing with Chinese White to produce the gray high lights on black cloth and velvet. It may be used in lieu of, or in connection with, India Ink, for retouching photographs; and being free from the sometimes too gummy properties of the latter, it works kindly, also producing a more silvery effect. In every case where depth and opacity are wanted, it is *the best* black at hand; whilst its power may be further greatly increased by the subsequent application of gum Arabic.

LEMON YELLOW—Being the lightest tint of the yellow chromes, is very pale, lively and entirely free from the least tinge of orange. It has not much power and is semi-opaque. It may be employed for points of extreme high light, is quite permanent, and washes well if skilfully prepared. Principally useful in draperies, but must be used in thin washes.

LIGHT RED.—A preparation of Burnt Ochre scarcely to be classed as a red; clear and transparent, but not bright; of a character similar to Venetian Red, but partaking of a russet-orange tone. Mixed with Cobalt, Rose Madder, and Indian Yellow, it yields fine gray shadows; and, with black, and Brown Pink, fine warm, near-tones in landscape. It is permanent and useful. With Pink Madder and a little Indian Yellow, it forms a good flesh-wash, if properly modified. But too much of it in the face produces a coppery effect; and therefore, when used alone it is more desirable for the darker and warmer complexions.

MADDER BROWN, OR BROWN MADDER.—This rich, lakey brown is of intense depth, and transparent, affording equally the richest description of shadows and some of the most delicate pale tints. With Cobalt or with French Blue, a set of fine warm or cool grays are compounded, in proportion as the brown or the blue predominates. It is quite permanent. Many of the deep lines and shadow-touches of the face may be done with this color alone. Sometimes used as a local wash for furniture-wood. This color may be so nearly supplied by a mixture of Crimson Lake and Sepia, that the latter *might* be used for large and deep-toned applications; but the fugitive quality of Lake rather depreciates the value of this mixture.

NEUTRAL TINT.—Composed of red, yellow, and blue, in certain proportions, is a cool, neutral, compound shadow color, and of the greatest usefulness. It may be introduced

into faces for softening the edges of the eyebrows and hair, and for general purposes where a neutral touch or shadow is required. With Burnt Umber it forms a beautiful cool, light-brown hair-color, and with Sepia, a cool dark-brown for the same purpose. It is of advantageous use in cloud backgrounds, and indispensable for softening the edges of the head and figure. Altogether, it is one of the most valuable pigments in the color-box.

ORANGE CHROME—Is, like Light Red, a tint of Yellow Ochre burned—by which operation it acquires warmth, color, and transparency—and has many of the good qualities of its original, with greater power. It is the deepest shade of the yellow chromes; a very powerful tint, and opaque. When used limpidly, it is applicable to orange-yellow draperies; and, should be used very delicately alone, or subdued with Burnt Sienna, for strong reflected lights on the flesh and also for "killing" the blackness of, and producing transparency in, the flesh-shadows. It will be found a convenient preparation of orange, especially for touches in costumes, flowers, and accessories.

OLIVE GREEN.—A fine hue of sober richness, much used in landscape. It is permanent, and mixed with Pink Madder, makes a good clear shadow tint for many parts of the flesh. With Sepia, it forms an excellent color for solid backgrounds in bust pictures, if washed on a dark base,—harmonizing well with the flesh.

PINK MADDER—Is very delicate, and can be used almost entirely for the carnation tints in flesh, as well as for pink draperies. It is clearer in its pale hues than any dilution of either Crimson Lake or Carmine, but does not possess intensity. With Cobalt it forms the most delicate lavender, and many beautiful tones of delicate gray. On account of their superior permanency, all the pigments obtained from madder are among the most valuable in the color list.

PRUSSIAN BLUE.—A deep-toned, brilliant color, having a slightly greenish tinge, on which account it is not, in the least degree, permissible in skies or flesh, where none but pure and unalloyed colors should be used. It is of all blues the most generally adopted for draperies; and, when mixed with Carmine or Lake, it produces all the tones of violet, lilac, and purple. With Gamboge it forms the most common green. When used for draperies, it should always be warmed with a little Lake, to "kill" the intense cold and raw effect.

PRUSSIAN GREEN—Is transparent, of a cool, deep-bluish tone; and its place might almost be supplied by mixture. It is, however, a convenient preparation, applicable to curtains, chair and sofa cushions, carpets, and leaves of scarlet (artificial) flowers, the green stones of jewelry; and for sea-green silk-dresses. The high lights can be found in Emerald Green.

PURPLE MADDER.—An intensely deep, rich, and warm purple, affording the greatest depth of shadow, without coldness of tint. The clearness and beauty of its delicate tones render it valuable in every stage of the work. With Indigo and Raw Sienna it gives beautiful shadow tints, and may be relied on for permanency. Some of the darker lines of division in the flesh can be drawn with it. Carmine and Sepia mixed resemble this color.

PURPLE LAKE.—A transparent, deep-toned Lake, useful as a local wash for Garnet, and in shadows of crimson and purple draperies; also good in making the Compound Black.

RAW SIENNA—Is very transparent, but a rather impure or tawny yellow. It is mostly valuable in landscape, both in distance and foreground, and positively excellent for obtaining the greenish hues of water. It can be made very useful, but does not work very well, owing to the presence

of undissolved particles and a tendency to be uneven on the paper. It furnishes a good local wash over a dark ground, which is afterwards to be lined and panelled; or if the photographic basis is light, give it depth and strength with Sepia.

RAW UMBER.—A quiet, yellowish-brown, not perfectly transparent; applicable to certain background-parts, and in landscape; but more particularly useful in the shadowing of the various tones of flaxen hair.

ROSE MADDER, OR MADDER LAKE.—A rather deep tint of the same kind as Pink Madder, and for which it could be used. It is of universal application in all descriptions of water-color painting, because it works well and is strictly permanent. In portraits it is an excellent color for glazing the underlip, and when used as a carnation for women and children, should be slightly heightened with Scarlet Vermilion.

ROMAN OCHRE—May be used sometimes for the yellowish tint in *very dark* complexions, and for draperies. It is deeper and more transparent than Yellow Ochre, and is, for many purposes, preferred to it. It makes the very *best* local wash for gold, and serves also for some kinds of flaxen hair, either alone or modified with Sepia. With Indigo it forms a valuable sober green. The Ochres are among the most ancient and valuable of pigments, and are classed as "broken" or indefinite colors.

SCARLET LAKE—Is more scarlet in its hue than Crimson Lake, but not so transparent. Very convenient and useful for brilliant crimson effects, and as a shadow-color for the deepest tones of Pink (Madder) draperies.

SCARLET VERMILION—As already prepared, is far more effective and beautiful than can be produced by mixture, and must be ranked among the *essential* pigments, if for

no other purpose than to heighten the effect of Pink or Rose Madder when used for carnations. It is the addition of the Scarlet Vermilion which gives that effect called "peachy," so admirable in the cheeks of women and children; but its opacity, heaviness, and power, require an extremely delicate application in flesh, or the worst consequences may result. It is also further useful for the more brilliant "touches" in flowers, draperies, and carpets.

[The Vermilions being so very hard, should be rubbed soft with the finger, so as not to wear out the brush.]

SEPIA—Is, by far, the most valuable of the Brown pigments and is used for combinations more than any other color. It is cool, and unless artificially warmed by mixing with other colors, it is of a dusky brown tint. Its light tints are extremely clear, but its coloring property is so very strong, that unless used with great caution, it is apt to produce heaviness in the shadows. It is perhaps the best *washer* known to the colorist, and is transparent and permanent. It is useful as a general shadow tint for light backgrounds, and for scumbling. With Lake it makes an excellent tint somewhat resembling Brown Madder, and useful for giving the sharp touches about the eyes, nostrils, etc. Added to Lake and Indigo, it forms the "Compound Black"—a superb mixture for cloth, silks, satins, etc. As a general tint for the hair it is unrivalled, on account of its adaptability to either the lightest or darkest shades of brown. In landscape, with various proportions of Indigo, it affords a range of fine neutral, cool, dark greens; and with Prussian Blue a low olive green.

There are also two other descriptions of Sepia: one called WARM SEPIA, the other ROMAN SEPIA. They are tints compounded by the admixture of a *red* for the former, and a *yellow* for the latter, with the natural Sepia. The latter is useful as a local color for yellowish-brown hair, and as a shadow-color for Vandyke Brown.

VANDYKE BROWN—Is a bituminous earth, very rich and transparent, and is named after the great master of the portrait art, on account of its frequent use in his works. It is permanent, and is employed in almost every department of water color. It is clear in its pale tints and deep and warm in shadows. Valuable as it is, and the most beautiful brown the colorist has, it nevertheless works badly. With Lake it forms a good transparent tint, much used as a flesh shadow color; and with Indigo it gives very clear, sober, neutral greens for the middle distance in landscape. It is a very fine glazing color, and is well adapted for strengthening the shadow under the nose, glazing the darkest shadows of green draperies, and for painting "golden-brown" hair. Combined with Cobalt, it makes a very desirable shadow-tint for linen and white draperies in general—the effect being warm or cool, as the brown or blue predominates.

VERMILION.—A brilliant opaque scarlet red, of great body and weight. It varies much in its tone of color and in the facility with which it is worked; and as it does not flow well, is apt to settle away from other pigments, and totally lacks transparency, its use is rather circumscribed. Added to Carmine or Gamboge, it affords the tints respectively of Scarlet and Orange Vermilion. In a very limpid state it may sometimes be used for the flesh-washes of children and fair-complexioned women; but as it is a heavy color, extreme caution is required to do this properly. It is a necessary local color for the under lip, but must be applied very thinly. In like manner it is also serviceable to illuminate the deep black shadows under the eyebrows, nose, and chin, which are found too often in poor photographs. [See *General Order of Painting*, Section 4.] It is too heavy as a local for draperies, but is well adapted for the brilliant touches in carpets, flowers, and otherwise, when *effect* rather than smoothness is desired. It cannot be used for grays or purples.

VENETIAN RED—Although deeper and purer, is very similar in its general character to Light Red, and is preferred by some as being not only a better color, but as working better. Its tints, though not bright, are clear; and when mixed with Cobalt or French Blue, affords excellent grays. It is very permanent, and is a useful and valuable tint for ordinary flesh-washes, with or without yellow. Heightened with Pink or Rose Madder, it makes another fine glowing hue for working the flesh, and applicable in some description of skies; saddened with black, it gives low-toned reds for buildings.

YELLOW OCHRE.—This sober 'broken' yellow is employed for very many purposes, is permanent, works well, and is the most useful and valuable of all the Ochres. It possesses a slight degree of turbidness, and is esteemed for this very quality, which is considered to produce its retiring effect. It is useful in forming quiet greens for landscape. In portraiture it is used very thinly for the local color of light flaxen hair, and in compounding the stronger flesh-washes for men. With Vandyke Brown it furnishes a good yellowish drab; with Indigo and a little Lake a positive and beautiful gray; and with Madder Brown it gives the exact hue known as Neutral Orange.

Handling or Manipulation.

Much of the freedom necessary to spirited and effective work, particularly in the matter of details will depend on the care and attention bestowed upon *the manner* of using the brush.

The hand should be lightly rested, but it must be in such a way as to secure a perfectly free action of the wrist, and of the fingers by which the brush is held. In holding the brush, the fingers should be kept as far as possible from the point; and it should be taken between the first finger and

thumb, the middle finger being at the side or a little under it, and the third and fourth fingers gathered quite under and back. Try to acquire a full and firm touch with the brush, and do not work too much on the point of it. Wash it frequently by stirring in a glass of clean water, especially if you have been using gum Arabic, opaque color, or white. The habit (very common among those who use water colors) of giving the brush a point by drawing it between the lips, is chiefly objectionable if the saliva be permitted to saturate it. It is far better to draw the brush to a point over a piece of soft paper, which should always be kept at hand for this purpose.

Every beginner should endeavor by continued practice to attain that characteristic in manipulation which is denominated "breadth," by which the easy dexterity of the proficient is readily distinguished from the faltering touch of the novice. In a word, "breadth" is the result of *knowing* exactly *what to do*, and *doing it at once!* He must not expect either that he can acquire *immediately* or easily the necessary skill to accomplish the various processes of manipulation, although they are in fact simply mechanical. *Repeated experiments* and *incessant practice* will be necessary to produce satisfactory results.

The handling of water-colors is comprised in three principal operations, viz.: *Washing*, *Hatching*, and *Stippling*.

Directions for Washing.

To a looker-on, the process of washing, though it may seem to be the easiest, is perhaps the most difficult of the three methods of using the brush. To do it *well* requires an amount of quickness, freedom, and steadiness—qualities which can be attained only by incessant practice—and which are not found combined in every student's hand. Timidity in this operation is at once perceptible in the result: blotches, muddiness, streaks, and a general unevenness of color. In

his first attempts, the student may feel disappointed if he does not attain the effect of equality and evenness, but this is not to be expected without considerable experience; and much dexterity of hand will always be necessary in order to avoid the blemishes already alluded to,—inequality of color, unevenness of tint, improperly-defined edges.

Where a large space is to be covered by a flat wash, it is advantageous to first go over the surface very lightly with pure water, in order that the paper thus partially saturated may absorb the wash of color more evenly than if left dry; and not too rapidly to allow its being put into all corners of the picture. Notice also that the flow of the wash can be regulated considerably by the angle at which the board is laid, and consequently, the inclination of an easel will be found entirely too steep for the larger washes.

The tints should be all fully prepared beforehand, and then they should be laid upon the paper as rapidly as the requisite depth of tint and the preservation of the forms will allow, in order that the interstices of the paper may be well filled and solidity of effect thus obtained. As a general rule, the brush should be tolerably full of color so that it may *float freely*, for upon this point in manipulating the *cleanness* of the work very much depends.

In laying on the tints, begin by planting them boldly and at once, close to the edges of the space to be covered, and not by repeated touches or by dragging the brush timidly backward and forward. It is also well to *stir up* the whole wash every time the emptied brush is returned for more color, as it keeps settling all the while. In passing the brush to and fro, while guiding the color-wash as it flows, a tremulous or wavy motion of the hand will prevent the appearance of lines after the washed part has become dry.

To prevent a blotty appearance in laying flat washes, the student should endeavor to regulate the charging of his brush with color by the amount of space to which it is to be

applied. If this is not done, and the brush is still charged after covering the space intended, it can scarcely be taken off the paper without leaving a floating spot, or drop of color, at the point of removal. When this occurs, however, the floating drop of surplus color should be removed by absorbing it into the brush, made somewhat dry.

Whenever it is necessary to repeat a wash over the same surface, be careful to *wait* until the previous one is completely absorbed or somewhat advanced in drying; else the after-wash may not only run irregularly, but, if the previous one has been strong in color, it will lift it or "wash up." Neither is it well to attempt the mixing of colors on the picture by successive washes; the color itself should be definitely settled and prepared beforehand, or impurity will surely result. An exception to this, however, may sometimes occur in the *necessity* of changing or of lowering the *tone* of a previous by an after-wash, when the first after drying has been found deficient; but it is always best to *test* the wash at first and be certain of its tone.

In all cases where *transparency* must be preserved—as in the local color for hair and drapery—it is better to obtain the exact tone by two or more applications of thin washes, rather than with a heavy wash at once. But when two or more washes are intended to be laid upon the same part—especially if it be large—apply the heaviest and strongest first; for the reason that, as it will require more time and care than a lighter and thinner after-wash, it will be upon the untouched surface with nothing to "wash up."

In drying, the board should be kept at the same inclination (or a little less) as when the wash was applied. When absorption has ended it may be laid entirely flat.

Directions for Hatching.

This is a process most generally executed upon a previous wash. It consists in the drawing of lines in such a manner

as to produce an effect impossible with the wash alone. There are different methods of hatching, and probably every artist has his own peculiar mode; but the student is recommended to try as follows, which will no doubt give a sufficient general idea.

Work over the space to be hatched with short, wide, regular strokes drawn firmly in rows, and so as not to leave little blots at the end of the strokes; at the same time following as much as possible, the general direction indicated by the form of the subject in hand. Hence, if hatching upon a flesh-wash, the direction would be horizontal on the forehead, perpendicular on the nose, and circular around the eyes, mouth, chin, and contour of the face.

[The little blots mentioned can be avoided by using the color rather dry, and by pressing firmly on the brush at the beginning of the stroke, carry it on to the end, instead of beginning lightly and ending by a firm pressure.]

Having hatched these strokes evenly one way, after they have become dry, cross them with others of the same kind, using the same firm touch; but *never cross at right angles*, or with lines too oblique. The appearance of the hatching should be tolerably open, but not too much so, in order that the local color shall not be entirely hidden.

The effect of hatching on shadows is to give them transparency, enabling the spectator to *look into* their depths,—a result which can never be attained by the use of flat washes alone. In the clouding around vignette heads, it is the hatching which will produce the mellow aerial effect, and without which the previous washes suggest only solidity and flatness.

Sometimes the hatching may appear too wiry, in which case wash it lightly as many times as necessary with a clean brush just *moistened* with water, so as to *slightly blend* the lines. It may also happen that the tint is worked in too dark, in which case hatch with clean water (without color),

and when perfectly *dry* remove the loosened particles of color by rubbing it gently with a brush or soft handkerchief.

It frequently happens that when the picture is looked at under a light opposite to that by which it was painted, the hatching appears rough and very decided. For this reason it is advisable to place the picture in different lights, and work on it until it is perfectly smooth and even,—taking care not to deepen the colors. This may be easily avoided by working rather *between* the hatching lines.

If the student will examine the manipulation of a first-class *Line* engraving—especially a portrait—he will obtain many valuable hints respecting the direction, manner, and general effect of hatching.

Directions for Stippling.

This method is similar to hatching, except that, instead of lines, the color is worked on with *dots* and *touches* made with the point of the brush. Its effect is about the same as hatching—to give depth and transparency—and at the same time retain greater purity of tint than could possibly be obtained by any washing of mixed colors. It is considered the finest and most delicate of the three methods of handling, and is consequently the least expeditious.

Stippling is inseparable from flesh painting, and may be considered the means *par excellence*, by which to produce those soft undulations and indefinite shadows which exist in nature. As there are really no lines in flesh, stippling is preferable to hatching, except in very large-sized pictures, where mere dots would be too weak; the dots and touches being better adapted to produce a *granular* appearance, more harmonious with the quality and character of the thing represented.

In general practice, however, stippling and hatching have become confounded, although the united method is denominated in ordinary parlance "stipple."

To attempt either of these methods in their purity would be almost an impossibility in photographic painting. The irregularities which occur in nearly all photographs compel the artist to adopt whatever method will best meet the case and accomplish his purpose. Hence this non-conformity with the exact demands of each process may, after all, be well enough; and the student will most surely find that when he endeavors to paint *flesh*, it will be somewhat difficult to progress in his work without *involuntarily* falling into the adoption of a *hatch-stipple* manipulation.

Some painters indeed recommend the flesh to be painted, first, by hatching—keeping the lines rather square—and leaving the interstices to be filled up afterwards by stippling. The effect of this is considered to be decidedly bold and well suited to large-sized work.

Unless the picture be very small, or the work is intended to be very fine, the student is recommended to give preference to the use of a medium-sized brush. The use of a very small one, or one having a fresh point, is quite likely to induce an excess of finish, which detracts from the results aimed at,—depth, solidity, and color. For general use, brushes which have been somewhat worn down to blunt points will be found most desirable.

Stippling, like hatching, must follow the line of the muscles, and *must not* consist of dots *without meaning*. The student should closely examine some of the best specimens of stipple engraving (those beautiful representations of statuary contained in the *London Art Journal*, for instance), and he will discover what a magical effect lies in the *correct* placing and disposition of the stipple-dots—how they should vary in size according to position in light or shadow,—then "go and do likewise."

Practice with the Brush.

The student having learned *how* it is supposed he will proceed to *do*. But (as has been already suggested) there is much to acquire that should be done *apart* from, and as preparatory to, working on the photograph. This is particularly true in regard to *Washing* and laying on color in masses. A disposition *to practice* upon drawing paper is highly valuable, and in order to aid and encourage such, the following extracts are given from Professor George Barnard, whose authority on this point is sufficient:

"Perfect freedom in all the motions of the fingers, hand, and wrist, and dextrous management of the brush, *should* be acquired *before* the student attacks the difficulties of color; and the time spent in practicing with Sepia or the neutral tints, with the view of gaining this facility, will be well bestowed.

"Sepia, without any admixture, is generally chosen as the most suitable pigment for brush-practice, as its light washes are extremely clear, and it possesses great power. Its general color is not disagreeable in any part of the picture; and should other tones be required, it will harmonize well with Cobalt and the other blues which are used in the sky. The paper employed may be white or tinted; the latter, as it allows the use of Chinese White for the lights, is generally preferred.

"By these preliminary exercises much is gained. The pupil becomes acquainted with a few of the powers of the instruments he is principally to depend upon for his effects; his eye is trained to observe the minutest gradation in tone or color; he will also soon perceive that color has very different appearances when put on full or dry, when floated, blotted, or dragged; and the close observation that these exercises occasion will eventually produce more refinement in his work than if he hastily dashed in his colors at random."

The Duplicate Picture.

The student who looks forward to the coloring of photographs as a life-profession may expect to work upon specimens of all grades, and many times with but *one* copy in hand. It is not always practicable to assist his labors by the aid of the original or even a *duplicate* picture.

The advantage of having the duplicate, however, is very considerable, and it is a good rule to insist if possible upon one being furnished with the picture to be worked up. In doing *large* photographs it may be considered *positively necessary* to have the *head*, if nothing more; since, owing to the greater breadth of line and depth of shadow, there is a constant liability to somewhat alter the direction of the one or to misapprehend the other. Especially is this duplicate essential in working Solar pictures, in which the definiteness of a contact print is wanting, and where the diffusion of line is so much greater than that which it is designed the pencil shall reproduce.

The expression of the eye, the line of the mouth, and other points which indicate the likeness, may be endangered, unconsciously, even when great care has been exercised; but the duplicate, changeless before the student's eye, is a preventive which should be acknowledged and used.

Sometimes the gentler lines and undulations of the flesh or drapery disappear to quite an extent beneath the wash of local color, and would be lost beyond recovery but for the assistance of the duplicate.

It is preferable also to have the duplicate made on *albumen* paper, because its finer surface is more likely to secure from the negative those delicate markings which, on the "plain" paper, do not appear at all, and which may serve very important ends in accomplishing the portrait.

Furthermore, the duplicate picture is your *authority* for

all that has been done, and in the event of harsh criticism upon the finished work, or denial of its correctness, *it* settles the case and "makes assurance doubly sure."

ENLARGED COPIES.—In working up copies which have been enlarged from ambrotypes, cartes de visite, etc., it will not do to be guided wholly by a duplicate print of the enlargement. Although it may serve to elucidate portions of the original which would otherwise have remained in darkness to the student's eye, it is not unlikely that this very clearing up and making plain may induce a preciseness of delineation that will lead the eye and hand estray, and produce a result which as a whole will not satisfy or please.

To be *successful*, the enlarged copy after being worked upon must preserve and furnish to your patron's eye, *the same general effect* as is produced by looking at the small original; and hence it is plain that whatever detail (imperceptible in the original), necessarily ensues in the enlargement, it should *not* be done in too strict a manner or in any way to arrest attention. As the original would be in the hand so must the finished picture look when hung upon the wall.

The student is therefore advised to get *his impressions* from *the original*, and *his drawing* from the duplicate.

Concerning the Photograph.

If it were possible for all photographs to be made possessing the same degree of tone or shade of blackness, it would be an easier task to guide the student in the use of those colors applicable to the various parts of the picture. But the reverse of this is, unfortunately, the condition of things with which we have now to deal; and even an approximation to so desirable a state of photography as that first mentioned is the lot of such only who paint for pleasure, and who are at liberty to *select* the prints upon which they intend to work.

Those, however, who undertake this art professionally, will perhaps be called upon to-day to color a photograph that may be dark as night; and to-morrow another as light as noonday. In one the gradation of middle-shadows may be lost in blackness, and in the other there may be a deficiency of shades from over-intensity.

Happily the days of "intense" negatives—the whites too white, and the blacks too black—have nearly ended, and given place to a desire for thinner negatives intended to be printed in the shade,—by which the colorist is afforded the presence and advantage of a succession of *intermediate shades* which the former order of things knew not.

It must be obvious that photographs intended for coloring *should not* be made "intense." No photographer should compel the artist to do *without* the sitter (as photograph painters very rarely *have* sitters!) what the camera and chemicals should be made to do *with* him; that is, to supply those half-shades which *characterize* the original. Oversight in this particular only jeopardizes, whilst care and attention would guarantee the *success* of their united labors.

In addition to such deficiencies and extreme contrasts of shade may be mentioned *improprieties* of *tone*—that is, the presence of actual *tints* of purple, brown, indigo, and dirty red; or yellow, by discoloration.

When the choice of the photograph is *optional*, we would advise the selection of a rather *light* one in preference to one very dark, as the former shows up the colors to greater advantage and is devoid of obstacles to the purity of your work. If its general tone be *neutral*—gray—it approximates that much nearer the basis which would be had upon clean paper, and consequently fewer hindrances are interposed. It should be well defined, having the middle tones and shadows clear, the background free from blemishes which cannot be touched out smoothly, and should be indeed *a*

good photograph,—a thing almost indispensable for beginners.

Due attention should also be given to the suitableness of the photograph to the complexion and hair of the person; one heavy and dark-toned should not be used for a fair complexion and light hair, else it may necessitate the use of body color, which is very objectionable. If, on the contrary, the complexion and hair of the original be dark the difficulty is considerably lessened; for, upon the application of the warm colors, these heavy photographic tones decrease in depth and frequently assume a desirable shadow color. Photographs of women and children should in general be lighter than those of men, in order that their characteristic softness may be preserved and more delicacy and beauty attained in the painting.

When the choice is *not* optional—and especially when the photograph is *a copy*—the print should be made and toned *according to the desire of the artist*. *He* is always best able to foresee *what kind* of a picture it is practicable to make, and *his* judgment should prevail. He can tell beforehand what obstacles can be overcome or what seeming drawbacks can be turned to good account. If the photograph is to have a solid background he may be able to work to suit it; but suppose it is a vignette to be worked in India-Ink, where the higher lights in the face are brought necessarily into comparison with the surrounding pure white paper—if the print be toned a dirty red or purple, it will be impossible to restore the face to anything like the clearness and brilliancy which *would* have resulted from working upon a *neutral*-toned print.

From the foregoing it is reasonable to conclude that in all cases where it is a matter of choice, the *artist*, and not the photographer, is the person to decide also upon the *style* of a picture. Upon viewing the plain print his mind will naturally investigate it with a view to the location of color;

he will perceive an opportunity *here* which can be "complemented" *there;* the introduction of a few little accessories; the laying out of the background; the transformation (if it is a copy) of some unsightly and inappropriate matter into "the right thing in the right place;" and many other points which his invention and experience would properly suggest. He too knows best the *resources* of the various styles, and from which the picture in hand will derive the greatest advantage. Hundreds of pictures are unjustly treated because of the improper selection of style; too many are done in India-Ink that demand color,—and *vice versa.*

When two or more copies of the same person are to be worked up, it is always best to select the entire number beforehand, so that the prints shall correspond in depth and tone, and the same basis be presented in each for the color or Ink. If the first completed picture is satisfactory your patron will most likely want *all* to be *just like it*, which would scarcely follow if the prints themselves were dissimilar.

Introductory to the Use of Colors.

The student in photographic painting has before him a peculiar task; it is decidedly a field strewn with hindrances, of which the novice in the school of water color upon clean paper has not the most remote idea.

Many times and oft he will find that in order to produce a desired effect he must resort to expedients and make choice of colors which, upon clean paper, would be positively wrong and intolerable; and hence necessity compels him to adopt *whatever method* shall attain the result. It is not an improper conclusion either since *the effect* is the thing sought, without reference to the means by which it has been produced.

The free use of Vermilion and Orange Chrome in the shadows of the flesh, of Burnt Sienna or Yellow Ochre in

the eyes, and the many other seeming misapplications of color—as compared with their respective effects upon clean paper—are things which must be reconciled; and are known to prove great stumbling-blocks to those of the true school who undertake the anomalous matter of painting upon the photographic basis.

In view of these incongruities which enter into the experience of every student, it would be in vain to say "Do *thus*, and *so*." The only alternative for us is simply to lay down *a general plan* of coloring; leaving to his own judgment and capabilities the *adaptation* of our teaching to each picture he may have in hand. Perhaps the whole matter of his success will depend on how far he is able *to discover the effect of colors* and their use upon the photographic ground.

A few months' study and practice, however, will render the application of the proper colors so easy and familiar, that the photograph will of itself *suggest* many of the tints necessary to give it depth or relieve its blackness.

☞ For the reasons above-mentioned, it is also plain that comparatively little advantage can accrue to a *beginner* in *photographic* painting, who studies the various works on *legitimate* water-color, as they *all* refer to operations *on clean white* paper; and he will find that he must at last depend upon his own perception and judgment.

Flesh-Washes.

For convenience and ordinary practice we may divide the *complexions* of both men and women into three general classes, respectively, and prescribe the colors which may be used in compounding the flesh-washes for each sex as follows:

GENERAL FLESH-WASHES FOR MEN.

1. *Ordinary.*—Indian Yellow or Yellow Ochre, and Venetian Red.

2. *Florid.*—Indian Yellow, Venetian Red and Pink Madder.

3. *Swarthy.*—Yellow or Roman Ochre, and Light Red; sometimes add Indian Red; and for a copper-tone add Burnt Sienna.

GENERAL FLESH-WASHES FOR WOMEN.

1. *Ordinary.*—Indian Yellow and Venetian Red.

2. *Blonde.*—Indian Yellow and Pink Madder (or Vermilion, if rightly used).

3. *Brunette.*—Yellow Ochre or Cadmium, Venetian Red and Pink Madder.

☞ These washes should always be weaker in color and more limpid in quality for women and children than for men.

The flesh-wash should be thin and devoid of particles of undissolved pigment, and in order to be kept pure it should be mixed afresh for every picture. In some cases a limpid wash of Light Red alone will suffice for men, although the addition of yellow gives it a mellower tone. In like manner a thin wash of Vermilion can be used sometimes for very fair complexions in women and children, but its opacity and turbidness require careful handling. If a more forcible tinge of yellow is desired, use Cadmium, but remember its wonderful power; and as it is slightly orange-toned it should never be used for true blondes.

When using the flesh-wash designated "ordinary" it may occasionally be desirable to impart an additional *roseate* tone, especially to females; in which case let the first wash dry, and then go over again with a thin wash of Pink or Rose Madder.

Some artists use one of the yellows alone for the primary wash, and afterwards hatch and stipple all the carnations and shadow colors upon this base. This course is perhaps

best adapted to the more delicate treatment of children's faces, though it is also applicable to prints in which the face is full of dusky half-shades; clear it up first with a thin wash of yellow, then add the red.

Although it is desirable to obtain a satisfactory flesh-wash as a *basis* for subsequent manipulation, it is advisable that the student should *not* attach undue importance to it. The after-work will necessarily obliterate its presence to a very great extent, for which reason the wash should always be mixed rather strong.

Carnation Tints.

The most proper, beautiful, and durable carnation tints are obtained with the Madders—Pink and Rose—combined with the Vermilions. Crimson Lake is an objectionable color on account of its purplish tone, and is not permanent. Carmine is not only too intense but even more fugitive than Lake, and its use in flesh is not permissible *except* it be for the purpose of obtaining a climax, should the Madders prove inefficient. That striking effect called "peachy," which occurs in children's cheeks, is obtained by the very delicate use of Scarlet Vermilion worked into the Madders already there, or mixed with them when first applied; but as this color is opaque and strong it must be handled in this particular instance *very* lightly and judiciously.

In men's faces, the rosiness of the Madders and the brilliancy of the Vermilions in their pure state would be scarcely proper, and will need toning down, which can be done with Indian Red or Venetian Red.

For a general carnation tint in other portions of the face use Pink Madder and Venetian Red mixed.

In using all the carnation tints it will be advantageous to remember that, as these reds will lose somewhat of their intensity by time, they should be painted *a little brighter* in color than they are in nature, so as to allow for this loss.

Shadow Colors for Flesh.

Properly speaking there can be no *one* mixture for flesh shadow-tints, inasmuch as each shadow, in the face especially, not only varies from the others, but those in one face will differ from those of another.

The following combinations, however, are given—leaving to the student their adaptation as he may be able to discern according to circumstances. Crimson Lake and Sepia; Cobalt and Light Red; Madder Brown; Cobalt and Indian Red; Olive Green and Pink Madder; Indian Red alone; Vandyke Brown, and Sepia, both used as a *glaze.* In mixing these, the *warm* color must predominate—the cold color will have its opportunity anon, when the grays are to be applied. With the foregoing the most important and characteristic shadows of the face may be put in.

When the shadows—especially under the eyes, nose, and chin—are already too dark, and have not been made lighter by retouching the negative, they must be *raised* to *transparency* by more powerful colors. Vermilion, thinly used, Orange Chrome tempered with Burnt Sienna, and Light Red may be used; and these worked upon the positive darkness, though they do not produce the *true* appearance of shadowed flesh, are the only remedies which the color-box affords. They should not be applied with too great strength, else the shadow will appear *hot* rather than "warm."

For half shadows, when rather dark, work over them with thin Vermilion.

Painting the Hair.

Painting the hair is by no means an easy task in regard to its imitation of nature. The difficulty will be found to consist not so much in the coloring as in *the drawing,*—

by which is meant those light and heavy brush-lines which give the form, flow, and character of the hair.

The disposition of every beginner is, as it were, to define "each particular hair," instead of breaking it up into easy-looking masses. This error is more likely to occur in painting short hair, as in the eyebrows, mustache and beard; in which cases much care should be used to avoid giving them a stiff, wiry appearance. The lines should not be made in continuous parallels, nor should the entire body of hair be painted so as to look like a solid skull-cover. However, these remarks find an exception in the front hair of women and young ladies, when worn plain, and when the hair above the line of the ears must be delineated with accuracy and smoothness; but at the parting this harshness must be somewhat modified by making the hair to *blend* with the scalp.

In pictures of men, entirely different methods should be adopted for the hair and whiskers. To accomplish the former, it will require a more graceful sweep of lines varying in width so as to represent masses; whilst the latter require thin lines only, and drawn with more rigidity and precision. Even if the hair be short, it does not allow stiffness, whilst if the whiskers are so, we do not look for anything else than short lines which produce that very effect. Neither can these methods be interchanged; the first, if used for the second, would be unnatural, as whiskers do not lay in locks and easy masses; while the second, if used for the first, would produce monotony and wiriness—the fault first above-mentioned.

Curls should not all be perfectly cylindrical, as is too often seen, but made to differ in size, shape, and direction. They should fall in easy masses; should not drop or lie upon the neck in continuous parallels (like so many pipes); and should *never* run across the neck so as to produce a heavy dark line as if separating the head from the body! If curls ap-

pear as though arranged with too much precision, their stiffness may be somewhat remedied by the addition of a few straggling ringlets thrown into the corners and at the ends. A hard contour of the face may be improved in like manner by breaking up the edge of the hair with small locks and ringlets; but make them round and graceful, and devoid of the appearance of single hairs.

Whether to apply the local color or lay in the shadows first, will depend entirely on the distinctness of the photograph. When there are ringlets, curls, and especially if the hair is crimped or frizzled, it is perhaps the best plan to define the principal shadows *before* applying the wash. Never mix any opaque color with the tint to be used for the shadows, as they must always be kept clear and transparent. The high lights must not be put on until the previous work is *dry;* then keep them thin, working with a bare pencil, so that the color of the hair may appear through them.

The outer circumference of the hair should be made "feathery" as in nature, and not be defined with such precision as to make the head look pasted against the background—particularly when the head is surrounded by clouding; therefore use Neutral Tint, or gray, to give a softness of definition around the outer edges. The softer the background about the head the finer and clearer will be the effect of relief.

The natural gloss of the hair necessitates the use of gum Arabic water with considerable freedom. It can be applied with even additional strength in the heavy shadows, producing depth, and imparting a general brilliancy to the whole. Very little goes a great way, however, and it must be applied with caution, else the effect will be stiff and daubed.

The following directions for color are applicable to the general classifications of hair.

Colors for the Hair.

FLAXEN HAIR.—Under this head quite a number of prevalent shades may be included—commonly among children—the color being in a continued state of transition. In general, wash with Yellow Ochre alone, or modified to the shade with Roman Ochre and Sepia. Shadow with Raw Umber, Roman Sepia, or Bistre, which will give the greenish hue natural to the middle tones of this hair. If there are curls, the high light on them can be intensified with Yellow Ochre or Indian Yellow and White. Associated with blonde complexions and blue eyes this description of hair is sometimes found almost white—vulgarly denominated "tow hair"—in which case use a very pale wash of Yellow Ochre. Raw Sienna and Sepia also make a beautiful sober flaxen tint, not being semi-opaque like the Ochres. Shadow with the same, Sepia preponderating; and if the photograph be light and clear, the putting on of high lights may be dispensed with by leaving the local color to represent them. Roman Sepia used very thinly makes an excellent color for *dark yellow* flaxen.

The *translation* which flaxen hair undergoes in photography has always been a source of trouble to the water colorist. Being required to produce a *light* tint where the negative has interposed the reverse, he discerns no alternative but a free use of body color; unless a previous working upon the negative itself (with lead-pencil or blue paint) has been resorted to in order to obtain a lighter basis.

AUBURN, OR "GOLDEN BROWN" HAIR.—Wash with Vandyke Brown if inclining to red; and Burnt Umber if inclining to yellow. Shadow with Warm Sepia and Sepia. Frequently the photograph will be so dark as to compel a first-wash of Burnt Sienna to relieve the blackness; then with Burnt Umber, and shadow with Roman Sepia. If the photographic basis is rather light, a beautiful and useful local

will be found in mixing Yellow Ochre and Vandyke Brown. Generally the lights for auburn hair should be made slightly purplish.

Red Hair.—Wash with Venetian Red and Vandyke Brown or Warm Sepia for a red tone; Venetian Red and Burnt Sienna for a yellow tone. Shadow with Sepia added to the local wash. For the lights, artists seem to have agreed upon a purple tint mixed with White. It would seem more consistent to heighten the lights by deepening the shadows, because it is rarely an object of ambition to possess hair of this kind. Its more conspicuous tones should be subdued and *never* exaggerated.

The general tone of so-called *Red* hair is rather *Orange*, and the true *philosophy* of color would dictate that, if exaggeration is *not* desired, its complementary *Blue* should be kept as far as possible from it. Despite this, however, it is almost the universal custom for ladies who possess this color of hair to wear *blue* bonnets and dresses; and artists are thus compelled to introduce this objectionable color into their work, the result being only to *heighten* the fiery appearance of the hair-tint. *Green* or *Lavender* would be vastly preferable. Correct taste would further suggest to the student that he should neutralize or "kill" it by placing *white* ribbons or bands near it, which would make it appear darker; or else by *overwhelming* it by the introduction of *a positive red* among the accessories of the picture.

["It is an ill wind that does not blow *good* to *somebody*," and so it happens that the relentless camera which depreciates Flaxen hair *improves* Red hair; *restraining* the artist's efforts to render to the former its natural brilliancy, but *assisting* him to control the offensive prominence of the latter.]

Light Brown Hair.—Wash with Bistre and Sepia mixed, or with Bistre alone if a greenish tone is wanted; shadow

with the same. Other hues for this hair are found in Roman Sepia, and Burnt Umber or Vandyke Brown and Neutral Tint mixed. Frequently the effect of *light* brown hair cannot be maintained unless by using a first-wash of Yellow Ochre, which (though intended only to clear up the photograph for working) may sometimes attain the desired local tint, and be ready for further shadowing with Bistre.

Dark Brown Hair.—In general the local color is found in Sepia alone, which can be lowered still more in tone by the addition of Neutral Tint. Shadow with same, and for deeper effects add more Neutral Tint. As in other cases, a first-wash may often be required to kill blackness—use one or more washes of Vandyke Brown. Lights gray, put on very thinly.

Gray Hair.—Work with India Ink and very thin Neutral Tint, which may be warmed in accordance with the hue desired by adding a little Sepia. Shadow with the same, the Sepia predominating; lights normal gray, heightened further by Chinese White.

[It may be opportune to remark that a white cap upon the gray hair of a lady will render the gray less conspicuous; whilst the contiguity of black, as a black cap or ribbons, will render it more apparent than may perhaps be desirable.]

The White Hair of venerable old gentlemen should be worked with a gray formed of Cobalt, Neutral Tint, and Vandyke Brown, letting the brown appear most in the retired parts. For the few deeper lines use India Ink or Neutral Tint; the prominent white parts, Chinese White. In manipulating this hair avoid hard lines and a bristling appearance. A pure white silky effect will be much more acceptable, and characteristic of the placidity of extreme age.

BLACK HAIR.—Although the deeper shades of cool brown hair are commonly denominated "black," there is still that which is known as "Raven Black." This may be produced by a wash of the Compound Black, but it should be of a cool tone. Or, if the photograph be very dark, a strong wash of Neutral Tint with a little Sepia may suffice, imparting the bluish tone as in nature. Shadow with Lampblack and Sepia, or the former alone, and work them further with gum Arabic for strength and definition. Lights, Neutral Tint and White.

[If the natural gloss of the hair has produced an *excess* of high light in the photograph, it will be necessary to first go over this light with a wash of Lampblack—this is not unfrequently the case.]

Painting the Eyes.

The eye is the *life* of the face. Hence to achieve excellence in the correct painting of this important feature, it will compel the student not only to be an observer of the various descriptions of eyes, but he should also understand something of the philosophy of its construction as the organ of sight. Without this there will be a constant liability to distort the shape of the eye, and give it a false expression.

In painting the eye,—after designating the line of the eyelid,—first draw, as finely as possible, the circumference line of the iris or colored portion of the eye. This is advisable because it assists in locating the pupil in the exact centre; and this may now be put in with India Ink or Lampblack, no matter of what color the iris is to be. [An exception to this, however, may sometimes be made in the case of *very light* blue or gray eyes, where a jet black pupil would appear too harsh and decided, especially if the expression is soft and mild; in which case it is better to use Sepia alone or combined with Neutral Tint for the pupil.]

It must be remembered also that, as the iris is, in most photographs, partially hidden by the eyelid, the pupil must be located *in the centre, with respect also to that portion which is covered.* It should be made somewhat larger too (especially in that eye nearest the light) than it is found in the photograph, where it appears reduced on account of the contraction of the iris when affected by the strong light under which the negative was taken.

Sometimes the pupil is scarcely discernible at first glance, and in many copies of old pictures not to be found at all. In the first case the student must (as it were) *feel* for it; in the second he must boldly place it there, taking care to judge well of its size.

In some photographs it will be found that the light striking the ball of a rotund or protruding eye, totally covers and obliterates the pupil and gives to the eye an appearance of blindness—particularly the case with dark or black eyes when facing the light too much. Those eyes too which have a "glassy" appearance, with light-spots of triangular shape bearing such a resemblance to rivet-heads, are almost an affliction to the artist, and to be ranked among those incurable cases referred to under the head of "Portraiture." The moment a pupil is introduced flatness occurs, and the expression which it had is quite altered; hence it is better to *endure* the fault than to make bad worse by endeavoring to *cure* it. If the picture in hand be a copy there is no alternative. Light eyes are scarcely ever subject to this rotund appearance, the pupil being almost invariably distinct.

Now proceed to wash in the local color of the iris, and follow with the shadow-tints as prescribed hereafter. By this time the high-light or white-spot of the eye has been somewhat obliterated; but its exact position must be *remembered*, unless there is a duplicate photograph by which to guide the working. If the local wash *does not* entirely

obliterate the white-spot, do so with a slight use of color or Lampblack, which is opaque. In the absence of a duplicate, the intelligent student will in most cases be able to re-locate the white-spot by judging the direction and manner in which the light falls upon the whole face and picture.

Our reason for *recommending* that the white-spot be *painted out* in most cases is, that in photographs *it is always too large!* whilst it can be easily restored, and with additional brilliancy, by using Chinese White; and further, because it would be an excess of trouble to reduce it in size by working around it.

In adding this light-spot, it must be done with a good pointful of White, and by a single touch—or at least seem as though it was so done—and for this purpose a rather blunt brush is preferable. The spot should be located upon the iris just *at the edge of the pupil*, in the direction whence comes the light into the eye; and the student will discover that to place it *correctly* is no less easy than it is simple and delicate. He will perhaps create many squinted and blind eyes in his first attempts, but the alternative is to paint out with the local or shadow color of the iris and try again. The white-spot must not cover the pupil in the least degree. In the larger-sized heads, however, it must not be located precisely in this way, lest when viewed at the proper distance it will appear to be *on* the pupil. Allowance must therefore be made for this circumstance.

[Although the high-light spoken of is denominated the "white-spot," it will not always do to make it *white!* As was observed concerning jet black for the pupil, in like manner *pure* white may sometimes prove too definite for the light-spot. In eyes of very mild expression, therefore, the "white" should be broken down to a light gray, or as the case may demand.]

That portion of the iris which lies in a direct line *opposite* the high light must be *illuminated* as it is seen in nature,

and without which the painted eye will look opaque and very dull. In most cases this is done by simply adding Chinese White to the local color of the iris, or that part of the iris may be *reserved* light in the previous shadowing; but the first method imparts the most *life* and brilliancy.

The sclerotica or "white of the eye" (as it is commonly called) is *not* to be made *white*, or left so in the photograph; but modified with blue for children and young persons, a pearly tint for middle life, and a slight yellowish tinge for aged people. The eye is also the most pleasing when its effect is soft; hence, if the edge of the iris be too rigidly defined upon "the white" it is well to subdue it with gray or Neutral Tint.

The caruncles, or red fleshy substances within the inner corners of the eyes will require some bright color. Use Venetian Red and Pink Madder, or the Madder alone. If the corner be dark, use Vermilion—carefully. A little cool green may sometimes be stippled around the socket of the eye; and if the upper lid be hanging (as in looking down), touch the edge of it with Indian Red.

The colors of the human eye may be designated by these general terms: Blue, Gray, Hazel, Brown, and Black. The pigments to be used for each kind are prescribed as follows:

Colors for the Eyes.

BLUE EYES.—If they are *light* blue, use thin Cobalt; shadow delicately with the same and a touch of Indigo; add White to Cobalt for the illuminated part of the iris—if it is not left sufficiently clear in the photograph. If they are *dark* blue, use a deeper tint of Cobalt, and shadow with Indigo. If "deeply, darkly, *beautifully blue*" (as are some children's eyes), the effect can be heightened by using French Blue; but carefully, as it is a powerful color.

GRAY EYES.—Define them delicately with India Ink and

a tinge of Cobalt; if the eye has been photographed with sufficient distinctness, use Cobalt alone. If of a bluish-gray, use Indigo in lieu of the Cobalt. Add White for the illuminating. Gray eyes often change to yellow hazel as the person grows older, and are to be painted in this transition state by tinting the illuminated part slightly with Yellow Ochre which will produce a greenish-yellow tone.

LIGHT (OR YELLOW) HAZEL EYES.—Use Yellow Ochre slightly toned with Neutral Tint for the local color. Shadow with Vandyke Brown, and illuminate delicately with White added to the local.

DARK (OR BROWN) HAZEL EYES.—For the local color use Vandyke Brown, or if the print is dark, use Burnt Sienna. Shadow with Sepia. Illuminate with Burnt Umber and White; sometimes Burnt Sienna and White.

BLACK EYES.—Although all dark-colored eyes are generally called "black," reference is now specially made to that description of eye which has its iris of so deep a brown as to be scarcely distinguishable from the pupil. They are peculiar to brunettes and people generally who are from tropical countries. Use Sepia and Vandyke Brown for the local color. Shadow with the same mixed with Neutral Tint or India-Ink. Illuminate with Burnt Sienna and Chinese White.

Painting the Cheeks.

The nearest approach to the color of the cheeks will be found in a mixture of Pink Madder and Vermilion, either color predominating according to the subject. It should be kept in mind that children ought to have more Vermilion, adults more Pink Madder, and old people more of a purple tone,—this last being made by adding a little Cobalt to the former mixture, provided the photograph itself does not give a bluish tone.

Remember that the use of Carmine or Crimson Lake is not recommended for carnations; the one being too bright, the other too purple,—and both are fugitive. On the contrary, *all* the Madders are *durable* and in every respect better. Pink and Rose Madder seeming to differ only in intensity, may be used according to the option of the student. Either can be used for men, but Vermilion should be added for young women and children.

In applying the carnations observe the grades of color and light on the cheek-bones, and do not lay out the cheek-tint in a circular, but in a triangular form, having its angles at the temple, lower jaw, and the nostrils. In no case should the carnations be washed on, but *always stippled;* although in very large pictures they can be hatched.

Painting the Chin.

In nature the chin being somewhat of a redder tone than the surrounding color, it is to be treated in like manner as the cheeks, though in a very slight degree; and care must be used not to commit the error of over-tinting.

Painting the Lips.

The upper lip being nearly always in shadow, is both darker and less bright in color than the lower lip. If the mouth in the photograph be not too dark, use Indian Red with a little Crimson Lake for the upper lip; if dark, use Pink or Rose Madder heightened with Vermilion. For the lower lip, wash it first with thin Vermilion, or Orange Chrome and Rose Madder, and in either case model and shade it afterwards by stippling with Pink Madder. Observe that in painting both lips, the more distant parts are to be less vivid in color.

The lips of children require more Vermilion, and those of aged persons more Pink Madder,—not unfrequently approximating a slight purple tone.

The painting of the mouth is perhaps the most delicate and hazardous of all the features, on account of its variableness of expression. In defining the partition-line between the lips, the slightest deviation will alter its character and damage the portrait. Especially so at the *corners* of the mouth, wherein most of the expression lies. Consequently it behooves the student to study well its distinctive marks as photographed, before commencing, and work throughout with the utmost care.

As has been already observed respecting the carnations, it will be well to paint the lips with a *full tone of color*, in order to provide against the unavoidable deterioration which time will effect.

Painting the Ears.

In painting the ear, which is semi-transparent, let the shadows be made warm and inclining to red. The inside of the ear should be colored with Pink Madder and Indian or Venetian Red, and the tips very lightly with Rose or Pink Madder alone.

The ear should always be well toned down, so that it will set back and be wholly secondary to the more important lights. A large or prominent ear is considered ever an ugly, unsightly object; and as it is an organ without being a feature it should never be painted in a manner that would increase its conspicuity. If practicable, it is more judicious to partially cover it with the hair,—which can be done in most pictures without materially changing the drawing.

Painting the Neck and Bosom.

The general tint of the neck, as it will be noticed in nature, is much below the color of the face, and invariably of a grayer tone. The flesh-wash might therefore be somewhat reduced for the neck, and the pearly tints added to a more

considerable degree. The clavicles or collar-bones peering through the flesh, are to be sometimes tinged slightly with Pink, but great care should be used to avoid rendering them too distinct and angular. The shadows of the bosom are usually of a bluish tint.

Although a well-curved neck, and round, plump shoulders do not by any means appear in the majority of photographs of ladies so taken, the colorist may very safely assume the privilege of *correcting* the drawing of his picture, so as to produce these desirable elements of physical beauty. Few ladies will *object* to any roundness of the neck or graceful droop of the shoulders which it may be possible for the artist to bestow on their pictures. Some delicate touches of Pink Madder can be put on the extreme point of the shoulders; whilst Indian Red and Cobalt will serve to shadow the flesh around the arm-pit.

Painting the Arms and Hands.

The foregoing remarks apply somewhat to the painting of the arms, although the lower arm often partakes of a very slight purple hue. Indian Red alone can be used for the first tints, working over them, when necessary, with Blue; and observing the reflected lights, which are always to be kept warm. The elbows should be tinted with Pink Madder, but delicately; and any disagreeable angularity should be rounded off—as before observed.

THE HANDS in most photographs, by reason of their distance from the focus-point of the camera (generally directed to the face), are disagreeably enlarged; and in most cases partially shadowed. For these reasons it is often desirable to cut them down, shorten the fingers, cover them with thin drapery, or "paint them out" entirely.

When the division-lines of the fingers are light or somewhat indistinct they may be drawn with Brown Madder, or

Sepia and Crimson Lake. If already rather dark, use Light Red or Burnt Sienna.

The tips of the fingers, the knuckles, and the outside of the hands are more rosy than the other parts, and require to be hatched with a little Pink Madder. Before doing this, however, it may be advantageous to *rub out* the flesh-wash a little in these particular parts; and when the hands are perfectly flat—as in old copies—and without definition and modelling, this rubbing out of a portion of the flesh-wash assists very greatly the raised appearance of the knuckles and other lights.

A liberal use of Cobalt in the hands is recommended—particularly for those of women and children—in order to attain clearness and the appearance of veins. This effect is also more necessary for *female* hands, the skin of which is intended to appear very fair and transparent.

The general tone of color in the hands should be very much below that of the face (except when the head rests upon one of them), so that they shall not first attract the beholder's eye—which *ought* always to be drawn involuntarily to the face—the portrait!

Grays, Pearly Tints, etc.

The uneducated eye sees nothing more in the human face than the general or local color denominated "flesh;" but among painters the varied hues which go to make up the entire complexion—in addition to the shadows and carnations—are known as "pearly tints," "grays," "middle tones," &c.

These, intervening between light and shadow, should *never* be made so decided or violent as to impress the spectator with the notion of an actual presence of blue, or purple, and sometimes green; but while *the effect* must be *complete* the tints themselves by which said effect is obtained

should be worked in very adroitly and with as much *cleanliness* as possible.

The delicate shadows of the forehead contain more gray than those of the lower face; the half-shadows under the eyes are more inclined to purple; but whenever the deep shadows blend into the local flesh color there will also be found a lilac or a gray, according as the complexion is light or dark. With many artists the lilac or pearly tint is in great favor, especially where the complexion is delicate and the skin transparent, as in children.

The various degrees of these tints will be found by mixing Cobalt with Indian Red and Pink Madder, to obtain hues of lilac, purple, and gray; and these can be reduced to a *cold* tone by adding a very little yellow.

Neutral Tint alone furnishes a beautiful cool gray, and is especially useful for softening the edges of hair and blending it into the flesh; but Cobalt should be added as it approaches the highest light. Much of the gray effect is obtained by simply working Cobalt *over* the reds previously laid, but this must be done understandingly, or *dirtiness* is sure to result.

It will perhaps surprise the student to learn how much of a *good* painting is made up of shadows, gray and pearly tints, and how far they go towards forming one harmonious whole. Grays are *not* intended to *hide* the local color but rather to be *passed over* it as a glaze; and therefore in laying them on, particular care must be taken that the undertints be not disturbed; otherwise the grays will become muddled and rendered opaque (which would nullify their purpose), since it is intended *to show* the flesh-color *under* them.

The student will note that the delicate blending of these pearly tints into the flesh and shadows, gives softness and rotundity to the work; for, if the shadows be left hard against the lights, not being duly graduated into them with

the pearly tint, the picture will appear crude and harsh, and wanting the connecting link which these intermediate tints form.

These tints appear to differ also according to complexions, but the difference is carried more through the local color which they are laid upon than any real alteration in themselves; as a consequence, therefore, when the flesh is very powerful in color, the grays must be correspondingly strong.

The following observations by Prof. Barnard are no less appropriate than valuable in this place:

"Respecting the colors or tints of flesh when examined closely, we shall, doubtless, find that many of the most beautiful and delicate of the tones on the human face are referable to the effect of simultaneous contrasts; thus, at the edge of shadows on a skin of warm, rosy color, is observed a cool gray and sometimes even a cool greenish tint, these becoming more particularly visible when the surface is rounded like the face. Where the light passes into half-light, or where the light and shade meet, there will be these cool tones; and, if the complexion is *red*, they will, from the complementary action, have a tendency to green, however unnatural such a tint may be considered on the face. If the complexion incline to yellow, or orange rather, the edge of the shadow will incline to blue. Some portion also, of these peculiar gray tints, may be owing to the semi-transparent nature of the skin, as well as the degree of gloss on its smooth surface, which reflects the cool lights of the sky. When these slightly green or gray edges of shadows are put in, they must be decided in their form and position, and pure in tone, or they will lose all effect. If dirty or undecided, it is almost needless to add they are worse than useless."

Touches.

By the term "touches" we designate the darkest parts of the features where the expression is concentrated, the high lights, and other salient points which give life, spirit, and intelligence to the whole countenance,—deciding its portrait and character.

Some of these must be defined at the beginning of the work—after the flesh-wash—so as to preserve the drawing of the photograph, whilst others are to be added at the conclusion, by way of a *coup de grace.* Among the former may be mentioned the upper eyelashes, nostrils, line of partition between the lips, and the line under the chin and ears. Burnt Sienna and Brown Madder, or Lake and Sepia, furnish mixtures suitable for this purpose. When the shadows are very dark (as they are indeed too often), use Vermilion thinly to bring up the dark parts.

Among the after-touches, the points of high light on the forehead and bridge and tip of the nose, may be obtained in part by rubbing out the flesh-wash nicely with clean India-rubber; but this must be done softly so as not to mar the surface of the paper. This effect may also be further heightened by applying Flake White with great delicacy. The after-touches about the mouth, which is the most changeable of all the features, must be very carefully done, as they will affect and determine the general expression.

Other of the after-touches are produced by simply going over the part with a very thin solution of gum Arabic. As water colors dry without gloss this application gives depth to the extreme shadows, and adds a general brilliancy; but guard against a tendency to overdo it, for on the whole, the *less* gum that is used *the better.* In finishing the eyes, hair, jewelry, and anything which has a gloss in nature, it should be used more freely, and in these cases it is indispensable.

The Selection of Colors for Drapery.

It is not at all an unfrequent circumstance that photograph painters are desired, and even necessitated to choose the colors for the drapery of the work in hand; although the general practice is to obtain full directions on *all* points from the originals or their friends. This is decidedly the *safest* plan, as it is not impossible that the painter *might* select a color which the original *never wore* (perhaps disliked!); whereas the painter's duty aims *to realize the exact life-look and color* of his subject.

The object of all decoration in dress being to improve or set off to the greatest advantage the personal appearance of the wearer, it follows that the colors employed should be *suitable* to the complexion, in perfect harmony with the rest of the attire, and have reference also to age and condition.

In regard to pictures of men there is scarcely room for choice; and hence the student will have no difficulty in adapting the few sober colors which the palette affords, in addition to the "customary suit of solemn black." But for pictures of women and children, the opportunity of selection is a great one and furnishes ample scope for the display of knowledge and taste.

For the benefit of those who have not previously regarded colors in a *scientific* or *artistic* light it may be very proper to add some general directions relative to the juxtaposition of complexions and their appropriate drapery-colors.

The following paragraphs are condensed from the excellent treatise by M. E. Chevreul, the Philosopher of Color, and the best of all authorities on this subject.

Red Drapery.—Pink-red cannot be put in contact with the rosiest complexions without causing them to lose some of their freshness. If it is unavoidable, however, separate the pink from the skin in some manner; and the simplest

way of doing this is, to edge the draperies with a bordering of lace or tulle, which produces the effect of gray.

Dark red is less objectionable for certain complexions than pink-red, because, being higher than this latter, it tends to impart whiteness to them on account of the contrast of tone.

GREEN DRAPERY.—A delicate green is favorable to all fair complexions which are deficient in rose tint, and which may have more imparted to them without objection. But it is not as favorable to complexions that are more red than rosy, nor to those which have a tint of orange mixed with brown, because the red they add to this tint will be of a brick-red hue. In the latter case a dark green will be less objectionable than a delicate green.

YELLOW DRAPERY.—Yellow imparts violet to a fair skin, and for this reason it is less favorable than the delicate green. To those complexions which are more yellowish, it imparts white; but this combination is very dull and heavy, if used for a fair complexion.

When the skin is tinted more with orange than yellow, we can make it roseate by neutralizing the yellow—which makes it thus appropriate for brunettes.

[Pale yellow or greenish-yellow suits no one, especially those with pale complexions. Its effect is to diffuse, by contrast, a purple hue over the complexion, and this is certainly no addition to beauty.]

VIOLET DRAPERIES.—Violet, the complementary of yellow, produces contrary effects; thus it imparts some greenish-yellow to fair complexions. It augments the yellow tint of yellow-and-orange skins. The little blue there may be in a complexion it makes green. Violet is therefore one of the colors which harmonize least favorably with the skin; and especially if it is not sufficiently deep to whiten it by con-

trast of tone. Mauve, and its varieties, are also included in this category.

BLUE DRAPERY.—Blue imparts orange, which is susceptible of allying itself favorably to white and the light flesh tints of fair complexions, which have already a more or less determined tint of this color. Blue, especially sky-blue, is consequently suitable to most blondes; but will not suit brunettes, since they have already too much of the orange-tint.

ORANGE DRAPERY.—Orange is too brilliant to be elegant. It renders fair complexions blue—whitens those which have an orange-tint—and gives a green hue to those of a yellow tint.

WHITE DRAPERY.—Drapery of a lustreless white, such as cambric muslin, accords well with a fresh complexion, of which it relieves the rose-color; but it is unsuitable to complexions which have a disagreeable tint,—because the effect of white is to exalt a color by raising its tone—and hence whatever may be objectionable in the flesh-tint, the contrast with white will only render it more so.

Very light-textured fabrics, however, such as lace or open-worked drapery, produce an entirely different result. They appear more gray than white; the threads, which reflect light, and the interstices, which absorb it, producing the effect of a mixed surface of black and white. In this respect, all white drapery which allows the light to pass through its interstices must be regarded as being gray rather than white, and can be used for the purposes of gray.

BLACK DRAPERY.—Black draperies, lowering the tone of the colors with which they are in juxtaposition, whiten the skin. But while this lowering does not take place to any very great extent, unless the black is in actual contact with the color, it has the effect of heightening the cheeks, if the white skin intervenes; the former appearing redder, and the

latter whiter than they would if the black drapery did not exist.

No matter whether the complexion be dark or fair, the color should never be placed next the skin, but should be parted from it by the hair or by a ruche of tulle, which produce the neutralizing effect of gray.

Colors for the Head-Dress.

If we notice the tints which are generally considered as harmonizing best with light or dark hair, we will discover that they are those which produce the greatest contrast. Thus, sky blue, which is known to accord well with blondes, is the color approaching nearest to the complementary of orange, which is (philosophically considered) the basis of the tint of their hair and complexions.

In the same manner, yellow and red—more or less orange—are two colors which accord very favorably with black hair. These colors, yellow and orange red, contrasting by color and brilliancy with black; and their complementaries, violet and blue green, in mixing with the tint of the hair, are far from producing a bad result.

☞ The student will not forget that his colors must be chosen as a harmonious *whole;* for a color which may be favorably adapted to the hair may yet produce a disagreeable effect with the skin, and *vice versa.*

Painting the Drapery.

The quality and style of drapery being already indicated in the photograph, the student will find that his special attention must be given to the *preservation* of the *natural* folds and other general characteristics of the fabric. As the application of his local color will to some extent obliterate many of the lighter lines of the photograph, he will also perceive how very advantageous it is to possess himself of a

previous knowledge of the manner in which various fabrics —cloth, silk, satin, velvet, linen, damask, &c.—*break up* into folds; together with ability to discern their characteristic lights and shadows.

This knowledge indeed may be considered as *absolutely necessary*, from the fact that in many photographs the lights are so intense and the shadows so deep that all the intermediate lines disappear, and the student is left to depend wholly on his own ability to supply the deficiency. Experience teaches also that occasionally in restoring pictures from old 'types and bad photographs the artist *must supply* the drapery *entirely*.

With this exigency ever likely to occur, the diligent student will feel it a duty to inform himself concerning the fundamental rules on this subject. Let him remember that drapery is intended to *cover* but *not* to *hide* the form; and that as the inequalities of the stream-bed are discoverable by the rippling water that runs over it, so the posture and shape of the members ought to be discernible by the folds of the garment that covers them. The drapery should *cover* the body *as if to show* it.

Endeavor to comprehend the *rationale* of drapery; how the folds originate from those points where it is held, enlarging as they recede, spreading where unconfined, or changing their course where they meet with resistance. On the whole, Drapery is one of the most important branches of our art and therefore demands attention and study—contributing very materially to the life, the character, and the success of the picture.

The practical operation of drapery-painting is reducible to *two* general methods, the choice being left to the student who will decide *according to the folds*, whether they be *distinct* (1) or *obscure* (2) in the photograph on hand.

These methods may be described respectively as follows:

First.—Go over the fabric with a thin wash of the local

color, principally to moisten the surface. Then define the folds, beginning with the larger ones which give shape to the masses. After these are completely absorbed proceed with additional washes—three should suffice for any case whatever—until a proper weight or body of color has been reached; all of which must be governed by the photograph itself, whilst also keeping in view the tone desired for the drapery when finished. *Upon* this basis the deeper shadows are to be worked before it is entirely dry, so that their edges will blend into the local color. The high lights should not be laid on until the previous work *is* entirely *dry*.

By laying the washes one over the other as directed—instead of applying the local with its requisite strength at once—the effect of texture is gained, and an evenness of tint which would not result otherwise. If the photograph be quite *strong* in the shadows and bright in the lights, there will be no necessity for defining the former until the local color has been decided, because, (it may be presumed,) they will be sufficiently discernible through the local color.

As has been before observed, the shadow-tint should in all cases not be too strong or thick, as it is intended only partially to *obscure* the local color, *not to hide it;* which it would do if it were made too powerful, besides imparting a hard, patchy appearance.

In shadowing *never* work *across* the folds, but always carry the brush in the direction which they run; and from, not to, the outline. A camel's-hair brush is perhaps better adapted for laying in the draperies than a sable one, because the color flows from it more freely and the markings of the brush are not perceptible.

Second.—This is only a *reverse* manner of working, necessitated by the *want of definition* in the photograph—occasioned by bad focussing, poor negatives, and a variety of ills that photography is heir to.

In this method, work up the folds—guided by the *dupli-*

cate photograph or original, which this process renders necessary to have at hand—until they are sufficiently distinct to permit a good wash of the local color. In order to soften the edges of the shadows in defining the folds, it is preferable to lay them out broadly at first with a rather thin tint, adding the stronger touches inside; and others if necessary still inside the last. There are instances, however, where the edges of the fabric overlap, as in gentlemen's coat-collars, &c., when harder lines should be used. The student should also guard against too great minuteness in detailing *every* fold! He must omit repetitions and continuations, and endeavor to maintain breadth and characteristic variety of line.

The shadows being fully defined add another wash or so, of considerable strength, and the work *should* be complete.

In making the wash over a shadow already defined, it must be done *at once*, with one sweep, not allowing the brush to work back—or twice over the same spot—else the shadows may wash up and the smoothness of the work be destroyed. Remember that each wash must be *completely absorbed*, and *partially dry*, before another follows, and entirely dry before the high lights are added.

As a general rule in regard to draperies, it may be remarked that the lights and the middle tints are always cool, and the shadow colors should be warm. The larger shadows will perhaps need hatching over to make them appear transparent.

Painting of White Drapery.

That portion of every photographic picture designated (and intended to represent that which was in the original subject) "white," will upon examination prove to be anything but *white*. This is readily proven by laying a piece of clean white paper beside it—the discoloration being attributable to the action of the various chemical processes

which the photograph must undergo, and somewhat to the printing. Hence it becomes as necessary to paint *white* (although the picture is supposed to *be* upon white paper) as it is any of the acknowledged colors.

In treating white drapery: for the middle shadow-tints use a gray composed of Cobalt, Yellow Ochre, and a little Crimson Lake. Another useful gray for delicate shadows is composed of Cobalt, Raw Sienna and Rose Madder. Work the shadows with Cobalt and Vandyke Brown, and a further use of Cobalt and Sepia, or Neutral Tint and Vandyke Brown if necessary for still deeper effects.

For ordinary purposes use Chinese White on the high lights; although Flake White is sometimes preferable (especially for the smaller pictures), as it is more delicate, and will not give the lights quite such a solid appearance. In painting laces, however, and all articles which *want* the effect of *body* and need to be manipulated with touches, Flake should give place to Chinese White.

When the white drapery occurs in actual contact with any other, especially the dark colors—as in the case of the linen bosom under a black vest, the cravat as it appears against the shirt collar or its ends lie upon the bosom, and any part not intended to appear sharp or protrusive—the strong contrast causes the edges of each to appear very hard. Consequently it will become necessary to interpose a connecting tint that shall modify the harsh contrast and give softness to both. This can be done by breaking down the edges of the white with gray—one of those before-mentioned—according to circumstances.

It very frequently happens in vignette photographs of gentlemen, that the body (bust) will be completely *sundered* by having the print cut off in vignetting at a point before it reaches the first button of the vest. This effect also results in a vignette where the gentleman has not worn a vest. It remains therefore for the painter to interpose a connection

between the two masses of drapery; and this can be done by *shading the lower part of the shirt bosom*, keeping the upper part in full light. Without this, the body looks like a map, the bosom remains too flat, and the whole would be very incomplete. It is vastly preferable that when the vest is a low, double-breasted one the photograph should be *printed* as far as the first button.

White drapery is usually somewhat modified by the colors of surrounding objects and background, and the shades and middle tones also partake of the same.

THE USE OF THE PRIMARY COLORS.

Yellow Draperies.

The principal of these are as follows:

LEMON YELLOW—Which may be shadowed with Roman Ochre and Vandyke Brown; it is semi-opaque and does not answer for delicate washes.

INDIAN YELLOW—Which is very warm, and the shadows of which should be brown, slightly purple—Vandyke Brown and a little Purple Madder.

YELLOW OCHRE—Which is a pale, sober tint; the shadows of which can be made with Raw Umber and Roman Sepia.

CADMIUM—Which is a rather orange tint; can be shaded with Cadmium itself, Burnt Sienna, and Sepia for depth.

ROMAN OCHRE—Which is a brownish-yellow, semi-opaque; and can be shaded with Burnt Sienna and Vandyke Brown, using them separately in the order named.

For the high lights of all the above yellows, add Chinese White to the local color.

Red Draperies.

Under this general head may be classed three principal divisions, as follows:

PINK—Is simply a reduction, with water or Chinese White, of Lake or Carmine; although Rose or Pink Madder alone answer *much better* for this color. It may be delicately shadowed with its own stronger tint, or a lilac by adding Cobalt to the local color, and the deeper shadows with Scarlet Lake. The lights may be heightened with a thin over-wash of Flake White. The delicateness and permanency of the Madders render them by far the most desirable for pink drapery.

CRIMSON.—Lake will be found sufficient for all ordinary purposes and susceptible of beautiful effects. Carmine is more brilliant and powerful though not so desirable. The addition of Sepia will shadow the Lake. When Carmine is used the addition of Lake will do for the lighter shadows, and Sepia and Lake for the heavier. When a crimson hue is to be laid upon a rather dark basis—as a heavy curtain—Carmine is preferable, because it is more effective upon the black. For high lights on the Lake add White; on the Carmine, a few lines and touches of red pencil or hard pastel gives the finest result.

Scarlet Lake also affords an excellent high-toned crimson, and should be used whenever the purplish tinge of Crimson Lake renders it too dull and undesirable; but it is not quite transparent.

Among the crimsons it will be proper to class GARNET, which only requires that Sepia or some other cool brown be added to Crimson Lake; and WINE-COLOR, a beautiful hue of which results from first washing with Dragon's Blood and afterwards deepening with Lake. Put on high lights of the latter with red pencil.

SCARLET.—The different hues can generally be produced with the Vermilions. Scarlet Vermilion and Carmine make a splendid but opaque tint; whilst another more transparent—applicable for silks, &c.—can be made with Indian Yellow and Carmine. Vermilion, if used alone, can be increased in brightness by laying under it a strong tint of Cadmium or Indian Yellow. The shadows of scarlet may be worked with Lake and Sepia; and for the high lights add Indian Yellow or Cadmium and Chinese White to the local color.

The other red pigments, Light, Indian, and Venetian, are not likely to be wanted in photographic draperies; at least not for general application, although they may often serve as bases or first-washes for those above mentioned.

The red parts having been transmuted to dark in the photograph, and which are to be painted red again, are usually much assisted by a wash preparatory to the local color. Vermilion, especially Scarlet Vermilion, and sometimes Orange Chrome may be used to "kill" the blackness.

When it is intended the picture shall contain a large quantity of red, it is always best to put on the local-washes of these red parts *before* giving attention to the flesh; if this is not done and the flesh is worked first, disappointment will ensue—as the overpowering mass of positive red will "kill" the carnations and oblige the student to repeat his work. He may be able to do otherwise after some experience, but this plan is the safest.

Blue Draperies.

Except as an accessory, blue is regarded to be a cold, disagreeable color and extremely difficult to harmonize with others; at least within the limits of a photographic painting. Therefore if blue must be used, the student should endeavor to "kill" it as far possible with warm, brownish shadows, so as to make the local color appear *negative* or only blue-

ish; and use *pure* blue *only* in the highest lights. In like manner, when painting military uniforms the tone may be rendered warm by *killing* the mass of raw blue with a slight addition of Lake. Blue is often a favorite color with ladies, and hence if it becomes necessary to paint a dress blue, the colors of all the accessories should be determined with a view to destroy its obtrusive predominance.

The respective merits of the blues have been elsewhere mentioned. In draperies of this color the lights and half-lights are cold but the shadows must be warmed with Lake or Sepia. Cobalt may be used as a local color for the lighter tints; French Blue for the more intense, and to this add Indigo for the deepest.

When black—black lace, for instance—is contrasted with a deep blue, the former should be made warm; instead of actual black, warm browns may be used—and these by contrast will appear black.

Compound Colors for Draperies.

GREEN—Is a very powerful color and a disagreeable one if used in large masses. The simple compound of any yellow with a blue forms green, but the respective gradations of hue and tone in each component produces corresponding results when mixed together. If clear bright green is desired it must be formed of *positive* hues of yellow and blue—and *vice versa.*

The different varieties of green may be composed as follows: Indian Yellow with Prussian Blue or Indigo; Burnt Sienna and Indigo, a beautiful russet; Sepia and Indigo, a drab dull green; all of which are *transparent* and reducible to the lightest washes.

Gamboge and Cobalt form a pea or cold light green; Gamboge and Prussian Blue make the brightest, most positive, and best known green; and additional low-toned hues can be formed by adding the *broken* yellows (Roman

Ochre, Raw Sienna, Brown Pink, Yellow Ochre, etc.), or some of the lighter and warmer browns (Burnt Umber, Vandyke Brown, Roman Sepia, etc.), to the blues and Indigo. These are not entirely transparent and not so useful for the more delicate draperies. Add Chinese White for the lights.

However, when blackness is to be overcome the transparent mixtures named must yield to the green containing Gamboge, which on account of its turbidness is only the more valuable for this purpose.

The pigment known as Prussian Green furnishes to hand a splendid hue in drapery, and is suitable and useful for curtains, cushions, and dark silk dresses. Its proper high light is the prepared Emerald Green, which can be still further heightened with Chinese White.

PURPLE.—The various hues of purple—lavender, violet, lilac, plum, &c.—are formed with the blues and crimsons. Enough has been said of these as simple colors, to direct the student's choice in compounding them. The lighter and more delicate can be produced with the Madders and Cobalt; the darker and stronger with Carmine or Lake and Prussian Blue or Indigo. French Blue and Crimson Lake form a very bright and clear shade which is of great use. All purples may be subdued with Sepia. Make the shadows with local color and Madder Brown; and if they are to be very heavy the dark shade may be obtained with Madder Brown and Purple Lake. High lights, local color and Chinese White.

ORANGE.—The ordinary compound is formed in various degrees by mixing the yellows with Vermilion or the Crimsons; and also in the already prepared Orange Chrome. Cadmium, with Carmine and Lake, produces gorgeous tones. Shadows are Carmine or Lake added to the local color and qualified with warm Sepia; the lights require a preponderance of White.

MAROON.—A very fine hue of this color exists in Madder Brown alone. Others are formed of Sepia and Lake, with or without the addition of a little Cobalt; and also with Lake or Madder Brown and Burnt Sienna. Modify the shadows with Vandyke Brown and Sepia.

THE BROWNS.—Under the head of *Pigments, their Qualities and Adaptations*, much has been said concerning the various browns. It is not, however, a generally desirable color for dress in pictures and seldom used, except to give variety, or where its use may be necessary on account of the number of figures in the picture. The Browns as already prepared, either alone or by intermixture, will suffice, and should be selected according to the photographic base on which they are to be laid. "Snuff-colored" brown, used for very old-fashioned coats, may be found in Burnt Umber or Venetian Red and Lampblack. Work the shadows with the deeper kinds, lowered if necessary with Neutral Tint or Lampblack. For high lights add White.

BLACK.—This may almost be considered the universal color for male apparel and is in constant demand by the photograph painter. The very best *transparent* black for cloth, silk, and other black fabrics (except velvet) is the compound of Indigo, Lake and Sepia, which, if properly mixed and the right tone (a deep violet) obtained, will produce as fine a color as can be desired. Instead of Sepia the use of Gamboge has been advised, but the working qualities of the former are so *very* superior to those of the latter the first-named is most generally used.

The preparation of this valuable compound is a matter of no little consequence, and of some difficulty in obtaining just the depth and tone wanted. To succeed well, the student will find that it must be done *systematically* and that if the three are mixed together hodge-podge he will be compelled to add now a little of one, and then another, to obtain the desired tone—and *dirtiness* will be the sure result. In-

stead of that, choose one of the following methods as suits best, and proceed understandingly: (1.) With Indigo and Lake form a deep purple, then add Sepia until a satisfactory black is produced. (2.) With Indigo and Sepia make a deep green, and neutralize this by adding Lake. (3.) With Lake and Sepia make a strong maroon; neutralize this by adding Indigo.

Inasmuch as the compound is based principally on the Indigo, perhaps the third method may be less desirable than the other two. The chief difficulty will be found in deciding *just when to stop* adding the color which neutralizes the others into blackness; and to this end the mixture should be constantly stirred with a brush so that its depth and tone are understood while the third is being added.

The shadows are to be worked with local color used strongly, and deepened with Indigo, if necessary. The high lights must be put on with a body-color of pure gray—Lampblack and White—used sparingly.

Lampblack cannot be used much in draperies, for the simple reason that it is opaque and will necessarily obliterate the shadows of the photograph, whereby many of the lines and folds of the drapery would be lost. It may be used, however, for the very deepest shadows in connection with the compound black, and also for the local color of black velvets—in which case all the lights are to be worked on afterwards with the gray aforesaid.

India Ink as a black for draperies can be used only where a dulness of the fabric renders it appropriate, as in the case of velvets. It can be toned cold or warm as circumstances require, and being transparent, is perhaps more desirable than Lampblack. Nothing can render it brilliant or powerful, however, like the Compound Black, and its greatest use will always be confined to the flesh.

Gold, Jewelry, and Precious Stones.

The gold ornaments almost inseparable from photographs of women, gentlemen's watch chains, and the buttons and tinsel upon military uniforms, should not be painted too bright, for gold is of a rather quiet and unobtrusive color. When the lights upon the jewelry offer for the most part, a clean surface, Roman Ochre furnishes the *best* local, except for Etruscan gold, which requires more intense color and demands Indian Yellow as its local. In both cases the shadows may be put in with Burnt Umber, and Burnt Sienna for the stronger touches. The high lights require Indian Yellow and Chinese White, on account of their unmistakable permanency and brilliant effect,—and this may be further increased by very light after-touches of *pure* White.

Jewelry is not unfrequently taken so dark, however, that it becomes necessary to give it a preparatory wash of Indian Yellow, else the Roman Ochre will appear too dull.

To delineate the ornamental work of gold jewelry when the exact drawing is obscure, there is no more effective manipulation than *dots*, the high lights on which give the appearance of raised points, chased surfaces, &c.; but they should be aptly located on the edges and wherever it might be *supposed* the surface *would* be raised or points occur. This is specially applicable when the ornament is small or indistinct—these high-light dots being sufficient to impress the imagination and create a form though none really exists.

PRECIOUS STONES.—For the various colors of the precious stones the student is advised to examine the originals and copy his local color from the stone itself, as instructions here would be for the most part insufficient. The photograph will be found to give dark bases for most of these stones and the use of body-color becomes necessary. The pale red Coral will also require a preparatory working with Scarlet Vermilion, whilst the deep red must be done with

Vermilion bodily. Garnets will photograph like jet, and yet often be almost white.

The beauty of the stone nearly always centring in its brilliant light, the student will see that his important task is comprised in designating the exact tint of these lights, which are *not always* found by simply adding Chinese White to the local color. In general, however, this is practicable; and the light should be increased by an additional minute touch of pure white. Gum Arabic should be applied freely and no effort spared to produce the most intense effect.

In cases where the jewelry is extensive and elaborate and constitutes a striking point in the photograph, the painting should be done *from the thing itself*, instead of depending on notes or the memory. If much of it is worn upon the neck and bust, as a necklace, watch-chain and brooch, considerable of their exact drawing is lost by the motion of breathing while sitting for the negative. Nor is it easy, without the jewelry, to always decide positively which of the high lights belong to the gold and which to the stones.

Bronze.—If anything like a bronze vase or table ornament occurs in the photograph, it can be done with a mixture of Burnt Sienna and Prussian Blue, which upon the dark basis will answer very well. Put on high lights with a yellow pencil.

Accessories—General Remarks.

Although the subject of accessories might with propriety be included under the general head of Background Painting, it is a subject of sufficient importance to merit a special chapter.

By the term *accessories* is meant the various auxiliaries introduced in the picture to assist the position, explain the idea, relieve the figure, etc.—such as curtains, tables, chairs, footstools, libraries, flower-vases, and whatever may be natural to, or suggested by, the subject in hand.

To elaborate these accessories overmuch is a very common error with beginners, who lose sight of the fact that it *detracts* from the importance of the figure. On the contrary, by treating accessories with breadth and freedom and massing them judiciously, we obtain a result at once advantageous to the figure and easily practicable as to finish. When such an effect is obtained there is no difficulty in fixing upon the necessary degree of elaboration, as it is then easily perceived how extreme detail would be injurious. [The foregoing remarks apply also to Landscape painting: there should be no precise definition of leaves in the nearest foliage; no minute laying out of branches; but rather truthfulness of *form* and completeness in *massing* the foliage.]

In simple bust pictures the introduction of an accessory is, to say the least, injudicious. Nothing will be more suitable for such pictures than a plain background; but in larger pictures some kind of accessory frequently becomes indispensable. For instance, where the arms are introduced, some object, as a chair or table or both, may be necessary to account for the position; but it should be constantly remembered that unless the accessory *does assist* the picture or harmonize with the age, position, or character of the person represented, it *must be omitted.*

It is not an uncommon thing to see pictures so *overloaded* with gaudy bed-furniture curtains; walls entirely covered with lines and panels; vases filled with artificial flowers; columns and plaster of Paris statues; windows, arches, old-fashioned furniture, etc.; while the colors of these may be so glaring, and the details of form so precise, that it is well-nigh impossible to determine the actual intention of the photographer or the colorist—whether it be to display the figure or the accessories!—and of course *the portrait* is rendered wholly a matter of secondary importance.

The accessory most usual in common practice besides the chair or table which nearly all portrait photographs contain,

is the introduction of a curtain; and it must be conceded that this *can* be made of very great use in assisting the general effect. In undertaking to put in a curtain the first important thing is to be able to *draw* an outline and obtain folds which will really imitate the thing itself, so as to produce a graceful flow and avoid stiffness. After that, the addition of cord and tassels, if desired, will claim a like degree of attention.

As already mentioned in the chapter on painting drapery, the general line of the folds and masses should indicate the nature of the fabric; whether it be intended for velvet, brocade, silk, etc. Brocade (or brocatelle) will be more easily distinguished and represented by the lines and figures that should be worked upon it—another point to study. White lace curtains may sometimes be introduced with excellent effect, but must *never* be painted as though it was *essential* to define their every interstice! It will quite suffice to give a certain amount of detail along the edges and on the higher lights, but it should be left to the imagination to supply the rest.

Painting of Curtains.

It being quite probable that the student will be employed more on curtains than on any other of the various accessories, a few practical methods for painting them are herewith given:

Red Curtain.—Mark out the folds and shadows with Sepia; then lay on a wash of Carmine or Crimson Lake; and over that, when dry, others of the same, until a proper strength is reached. Deepen the shadows with Sepia and Lake, or Madder Brown. If it becomes necessary to *break down* any part that appears too glaring, lower the red tint by hatching upon it with broad touches of Madder Brown—or still more, with Sepia alone or with Lake. For high lights mix Chinese White with the local color, or touch them on

with a red pencil (in cedar-wood), or hard pastel of the proper tint.

Amber-colored Curtain.—Wash with Indian Yellow modified with Burnt Sienna; shadow with Burnt Sienna and afterwards with Vandyke Brown or Sepia. High lights, use Indian Yellow and Chinese White, or Yellow Crayon. If it is desired to give it a retiring effect paint a black pattern upon the curtain, or cross it with fine diagonal lines.

Green Curtain.—Under the head of Drapery many combinations are given for green. The already prepared Prussian Green is a very good local color for a brilliant, strong and cool tone. Shadow in the same manner as for green drapery, using Emerald Green for the high lights.

For other hues appropriate to curtains, see *Compound Colors for Draperies.* In a truly artistic sense the Secondary colors are preferable and sufficiently decided for curtains. The pure and unalloyed tones of yellow, blue and scarlet-red are rather too attractive for the subsidiary position of a curtain, and would be too apt to overwhelm the figure. The more grateful hues of purple, green, and brown will be found much more proper and useful.

It is to be regretted, however, that the professional photographic painter is frequently compelled to do what is *not* altogether in strict accord with true art; though the *conscientious* artist will always aim to direct his judgment *as far as possible* in harmony with a *correct* standard. In the end he will be likely to please the majority of his patrons and achieve a good reputation.

Furniture.

The wood-work of furniture may be represented as Mahogany, Rosewood, Walnut, and Oak, according to the local color used. Venetian Red or Light Red will produce the Mahogany color; Crimson Lake and Sepia will give the

various tints of Rosewood; Burnt Umber, lowered with Sepia, will furnish the Walnut color; and for the Oak use Yellow or Roman Ochre as the case requires. Warm Sepia and Lake; Burnt Sienna and Carmine, with an after-wash of Sepia; also form good furniture colors. Madder Brown may sometimes be used when the basis is dark.

The high lights on furniture are grayish-blue (body-color) and should be touched on with distinctness. A few delicate after-touches of white increases the brilliancy of the lights, which is very essential in correctly representing the highly polished wood. The free use of Gum Arabic is also as necessary to imitate furniture in a picture as varnish is to complete the bright effect of the thing itself.

The color of the velvet, brocatelle, or cloth furniture-cushion, should be discreetly chosen; for the reason that in many pictures it is the only place for the introduction of a positive hue with which to harmonize the flesh or drapery.

Carpets and Table Covers.

These should for the most part be kept in great subjection to the figure. If it is decided to work somewhat in detail the various parts of the pattern-figure, the colors should not be applied with *too* great nicety and precision; and no attempt should be made to work out the exact pattern—else the result will look like a piece of mosaic work and the effect be hard and disagreeable.

While the student is recommended, as a general rule, to treat the pattern of carpets *indifferently* when they occur in shadow and along the edges of his picture, he must also be able to *concentrate* his light in a particular spot by working out with more distinctness and with brilliant colors, the pattern as defined by the photograph. With this idea in view, let him work the carpet in full light *only* at the feet of the figure, the borders being kept in shadow—especially that which lies along the bottom or *front* of the picture.

If this is in shadow, and the light kept up at the feet of the figure, it necessarily follows that the figure will be thrown back and so placed as to attract the eye instantly, involuntarily, and pleasurably.

An *exception* to the foregoing occurs when it is necessary to make a tessellated floor, which, so far as light and shadow are concerned, can be regulated in the manner spoken of; but the geometrical drawing, according to the rules of perspective, *must* be rigidly maintained throughout. The tessellated floor is seldom introduced into photographic paintings now-days, and scarcely demands particularization here. It is mainly suitable for halls, terraces, porticos, etc.

The handling of the brush in working on carpets should as much as possible be performed with short *horizontal* lines and touches. If the lines which indicate the direction of the carpet-pattern as a whole are perpendicular, the carpet (or floor) will too often seem to *run up* toward the back part of the picture; and for this reason it is better and easier—when the carpet is not specifically defined in the photograph—to lay it out *diagonally* with the base-line of the picture. This will not only aid in covering bad drawing, if there be any, but it gives variety of line, as opposed to the perpendicular figure, the panels, and lines drawn upon the wall.

The same directions in general given for the treatment of curtains and carpets are equally applicable to TABLE-COVERS. The student must guard against over-finish and flatness. Only that part of the cover next the sitter should receive attention, allowing the other side to remain in shadow. If the cloth be figured, avoid such color and detail as will seem to *lose* the distinctness of the hand that may rest upon it. The cloth should hang in easy folds at the side, and the tone of color be subdued as it approaches the floor. Being of minor importance, it should comprise very little variety of color, with few high lights.

Repetition of Light and Color.

An open window or door, affording a glimpse of landscape outside, may sometimes be introduced to great advantage, for the purpose of *extending the light* which would otherwise be confined to the figure, as well also for the *repetition of color.* For instance, if the interior color be dark-toned the introduction of a few warm tints into the sky (as seen through the window or door), serves to repeat the color of the flesh; while other tints of ground and foliage may repeat the color of the draperies—and thus, by contrast or complementary effect, the value of the whole is enhanced.

Concerning this repetition of color it may be observed, that it is *not* intended to repeat the color with *exactly the same tint* in any case whatever, but by one *of its kind* in general. The object of this being to raise or to lower the *tone* of the colors upon the figure, the reds, the yellows, and blues are to be regarded *as general colors*, and not as individual tints of any one color.

Backgrounds—General Remarks.

A consideration of most vital importance in the management of a picture is the background; which may be understood as comprising everything seen beyond the plane on which the principal figure or figures are arranged.

The chief technical resources of background painting are to be found in *Landscape*, *Architecture*, and *Drapery.*

It should, in general, be of a negative character and retiring, in order to give prominence and force to the subject painted. It affords the student an opportunity for showing his originality in the introduction of striking and ingenious devices which shall add grace and interest to the figure, —giving vigor and point to some parts, softness and repose to others, and union, harmony, and effect to the whole.

Whatever is introduced, therefore, should be *in perfect agreement* with the character of the subject in hand.

It will be found that the best photographic basis should possess a tone midway between the highest lights and the deepest shadows, in order to give due relief to all parts and produce the best results in coloring. But this is not always the case, and except when the photograph has a *white* ground, the student is unfortunate (as professional painters usually are) in not being able to *select* his tint of background, but must yield whatever desire *he* may have to the necessities of the case.

In painting backgrounds two essential points are to be considered—*tone* and *color*. The color is to be chosen in the same manner as those of draperies, with respect to the head and figure. The tone must be always different from the mass it supports and of which it is the ground, so that the objects coming upon it may not seem transparent, but solid and raised—"relieved." The color of the hair usually determines the tone of the ground in portraits or vignettes, but in figure pictures the hue of the drapery should be regarded, so long as the color selected does no violence to the face.

When the ground is neither a curtain or a landscape but is plain and intended to represent a wall, it should consist of broken tints and not of one uniform color, while it should also be lighter in some parts than others, so that the figure may not appear inlaid. This is usually effected by introducing pilasters, panels variously-hued, etc.

After the head and drapery are painted it is the background which really *completes* the picture, and its use is not merely to throw out the principal object, but (as before mentioned) to control and harmonize the whole.

The student must remember the simple principles of *chiaro-oscuro: always* to relieve his figure and accessories by placing light against dark and dark against light. Hence

if the head or figure to be painted has one side in shadow, his background must be kept lighter against that side, and made darker against the other side which has the higher light upon it.

There are two principal methods of relieving a figure: first, when the light is on the subject; and second, when the subject appears dark on a light ground. For portraits, the former is best adapted; and the tint of the background—the tone of which is always to be kept low in order to throw out the lights upon the head—may be varied through all possible gradations, from the shadow thrown upon a light-tinted wall to the depth and obscurity which surrounds a figure placed just within an open door. Light backgrounds involve less labor but they have not the force of dark ones, for it is obvious that light will always appear brightest when it is surrounded with shadows or darkness. Certain parts of the figure may sometimes almost be lost in the ground whilst other parts should come sharply out of it.

These facts will very naturally suggest the appropriateness of the first-named for men, and of the second-named for women and children. In the former our ambition is to depict character and strength, which would demand the force and solidity of a dark ground; whilst in the latter our aim is to portray softness, repose, and beauty, which would require the more suggestive and harmonious clouding of a vignette.

In solid backgrounds it is a good plan to keep the warmest colors near the centre of the picture and the colder colors outside.

Backgrounds—Practical Directions.

With the foregoing chapter upon the nature and characteristics of backgrounds in general, special directions for painting the same may now be given.

In general practice it is advisable to use negative grays,

blues, and purples, especially for pictures of fair persons and children. Dark complexions should have dark backgrounds inclining to red or warm brown. Olive greens give additional value by throwing up the carnations of the face. Never use a cold blue green, although the use of this color may otherwise vary from a yellow-green to a drab.

The gray, blue, and purple tints above-mentioned can be used to most advantage in vignette pictures when made on clean white grounds. In these instances the background should be painted to represent clouds—atmosphere—(giving to the head an appearance as if seen against the sky), and can be manipulated as follows:

Having selected and prepared your cloud-color wash or washes (as the case may be), proceed with a light tint of the same over all the space intended, remembering to lay out the edges with convolutions and broken forms as seen in nature; then as quickly as possible go around the edges of this with a brush just *moist*, which will absorb part of the color, and thereby blend the edges of the cloud-mass with the clean paper. In doing this, break up the upper edges into delicate fleecy tracings but occasionally leave some of the lower edges heavy in color, to represent the shaded side of the cloud. In laying the wash, occasional specks and lines should be reserved *white*, like breaks and openings, which save rubbing out afterwards and produce a very fine effect in the end.

When this is absorbed, lay on another and darker tint, keeping it some distance *within* the outline of the first wash, but not always at a regular distance. Neither should there be any uniformity of convolution or shape between the outer edges of the first and second wash, as nothing of the kind exists in the natural cloud-forms which are being imitated. Add a third and still darker wash at the proper time if necessary, inside of the edge of the second. Two washes are usually sufficient, although the number and

strength of color must *always* be regulated by the work in hand.

Perhaps one, or at most, two washes will be found quite strong enough against the dark side of the face if three be used to relieve the light side; remember they should *never* be *alike*.

If the clouding is to be composed of *more* than one tint, all must be prepared and *everything ready* before commencing the wash; then the different tints can be placed as the color flows and is absorbed. If this is dextrously accomplished and the washes kept pure, a great point will be gained and—barring the flatness and want of "atmosphere"—a beautiful effect produced.

For a shadow-cloud (or rather a shadow of the head *upon* the cloud) designed to relieve the dark side of the face—just as it would be proper to execute a shadow upon a wall background—it may be necessary to increase the strength of color, or use an additional darker one.

Although the foregoing method of producing cloud backgrounds by *washing* is *expeditious* and may suffice for pictures that are not intended to be wrought finely—and may also do *for the beginner* in photograph painting—it is incomplete, and lacks the artistic finish which is essential to an *excellent* picture, especially a vignette-head on a white ground.

Therefore if the work is intended to be elaborate and complete, the *best* aerial effect will be obtained by *hatching over* the entire cloud surface, which has been already washed. When the clouding is to be finished in this manner the selection of the wash-tints must be done with reference to the hatching-color, so as to avoid muddiness in the end. This process will require a very great amount of time, patience, and labor; but if the proper handling has been used the superior result will amply repay.

Cloudings for children's heads should be composed of

whatever tints harmonize best with the face; a subdued green can sometimes be introduced freely with good effect. For women the tints should be more sedate but still fresh and rather varied; and for men the cooler and stronger grays, drabs, and greenish-browns will be appropriate.

Reference has already been made to the "shadow-cloud." The darker side of the face is always greatly relieved and a good effect produced by projecting a moderate shadow upon the clouding *at a little distance* from the head. It should be worked somewhat along the lower edge of the clouding, and, as it were, seem to *rise*, losing itself in the general tone as it rises. If the shaded side of the face be *very* dark, it can be made to lose one-half its blackness by putting in this effect of shadow-cloud sufficiently strong; but care must be used so that while a due strength of color is used, the idea of *atmosphere* be not destroyed; lest that which is intended to be *aerial* may prove "of the earth, earthy."

Indeed, all the hatching and stippling used to obtain a cloud-effect must be done with comparatively faint but decided lines and touches. Remember that the former should *never* intersect each other at right angles or run too much in parallel lines. Crossed hatching lines, drawn somewhat less than forty-five degrees from the right and left of a perpendicular, produce the aerial effect, if not too distinctly drawn. They should be light or heavy according to the depth of the wash upon which they are worked. The edges of the clouds must always be lighter and more delicately handled than the centre parts.

Opaque Backgrounds.

Although it is the practice of some artists to meet the difficulties arising from very dark or otherwise objectionable backgrounds in the photograph by painting them entirely in "body color" (mixing all the colors used with Chinese

White), the practice is at best considered inartistic and open to many objections. It is *not* meant here that body-color is never to be introduced, but *the exclusive* and *entire use* of it is not advised.

Water color painting is for the most part a method of using *transparent* pigments; consequently any attempt to engraft the capabilities of other styles totally different in this important quality, cannot end otherwise than in a loss of the chief beauty of water colors. This is the *theory* of its application to photographic painting.

The handling of the body-color method must necessarily be akin to the practice of oil rather than water; and though it gives more power than the latter style, it causes a total sacrifice of all the beauty of transparent color. To complete a background in this manner is sure to destroy the general softness of the picture, and is equally certain to make the head or figure look "inlaid," or as if cut out and pasted against the ground!

If the background is to be made an important feature of the picture it is infinitely better to have the photograph taken with a *white ground* at first; or else have the figure cut out and printed *without* the original background. Then the artist has a basis upon which he *can* exercise his choice, and a field is opened to him in which to display his ability in the *true* style of water color.

But when the ground is to be plain and of one shade, very beautiful effects are afforded with soft pastel, to which attention is now directed.

Backgrounds in Soft Pastel.

The objections generally urged to opaque grounds must be yielded in this species of work; for, while there is no better way of covering over a scratched or speckled surface in the photograph, there is also no other means of produc-

ing a new one which can rival it in evenness of tint or shade, softness, and atmosphere.

Perhaps the most valuable characteristic of pastel is its great use to the artist when he has in hand a copy of some old daguerreotype that has a horrid background of streaks, dust-marks, scratches, stains, etc. Whether the copy is to be worked in India-Ink or color, he will be surprised to find how readily and expeditiously he can get rid of an abominable task, in which, but for pastel, he would be compelled to exhaust his patience by *stippling* to smoothness.

GRAY PASTEL—FOR INDIA-INK WORK.—First touch out all the prominent spots, lines, etc., that appear white; then by washes of Lampblack bring the photographic ground to about the tone, or if anything darker than the shade of the pastel about to be used. For this particular purpose Lampblack is superior to any other pigment on account of its "body," which creates a "tooth" on the surface, to catch and hold the pastel when subsequently applied.

In preparing the ground for the pastel it should be done as evenly as possible, and as the powder is not to be rubbed on too thickly it is plain that the more equal in tint the basis is obtained, the smoother in surface and tone will be the finished ground.

No attempt must be made to apply the pastel until the washes have become *entirely dry*, else the powder will stick or "cake" instantly, and the wash will rub up. Neither should the fingers or hand be allowed to touch the surface, as they are likely to impart just enough of greasiness to keep the pastel from adhering; indeed the sure preventive is always to *wash* the finger or fingers intended to be used in rubbing the powder.

Now crush the pastel to a fine powder with the spatula or by rubbing it on a piece of moderately smooth board (or cardboard) and mix the shades according to whatever depth the work demands. Place the drawing-board in a horizontal

position or nearly so, and with the spatula gently sprinkle a quantity of the powder over the surface previously washed. Then begin to spread it over the part by rubbing it with the finger over the broad spaces, and with the aid of a Stump carry it into such corners as the finger cannot reach. Spread what is there as far as it will go before adding more, and if the ground-wash is even it can be rubbed very thinly.

Always put on the *lighter* shades *first* and rub the darker ones into them, finishing with the deepest. The finger should be worked with a circular motion, occasionally reversing it, bearing very lightly on the paper, and *leaving no marks or any trace* whatever of *how* the powder was applied. Do not press the finger too heavily on the powder when the rubbing is commenced, or it will likely not spread well from that particular spot, and smoothness will be impaired.

Remember the general rule, to apply the shades of the pastel light against the darker side of the face or figure, and *vice versa;* and if the shadow be laid out correctly on the background, the effect will be wonderfully soft and atmospheric. In applying the pastel powder if some of it is accidentally rubbed beyond the limits of the space to be covered, or upon the figure, it can be removed with a dry brush or soft India Rubber, used very lightly.

About three tints of normal gray (white and black—as it is found in boxes), will be sufficient to compose a good background for India-Ink work, if the Ink has been kept *neutral* in tone; but if not, it will be necessary, by the use of color (crayon), to harmonize the pastel ground with the subject. In addition to the black furnished in soft pastel it may be preferable to grind down some *hard* black (Contè) crayon, which sometimes produces a cleaner and less sooty effect.

To avoid the inlaid appearance and give nature's softness to the outline of the figure, go all around the edges with a *moistened* (not wet) brush; this will just *break* the tone of

the pastel where it comes hard against the figure, and give a more pleasing result.

Should it become necessary to add other washes to the drapery, curtain, or anything else *after* the pastel has been laid, be *very* careful that the motion of the brush shall keep the flow of the wash *from the edges* of the part to which it is being applied; otherwise if the color strikes the pastel, it will spread instantly and the work be damaged, if not entirely ruined.

If facility is once attained in the manipulation of pastel, the student will be not only surprised and pleased with the beautiful finish which this smooth background is able to give to his picture, but also with the very simple and easy process by which a result so excellent has been obtained.

PASTEL FOR COLORED WORK.—The foregoing directions apply also to the use of *Colored* Pastel in manipulating grounds for *painted* pictures; except that if the finished ground is to be of a *light* tint, it will be advisable to give the paper its required "tooth" by adding a little "body" (Chinese White) to a suitably colored wash. If for browns or stone color, the Lampblack will answer as well.

In addition to the grays, white, and black pastel above-mentioned, it will be necessary to have red, blue, yellow, green, brown, and a few others; but all may have a negative tone. Enough has already been said to fix the fact that a subdued hue for the background is all that is wanted.

☞ Pictures with pastel backgrounds—whether plain or colored—should *always* be set off with a *white-edged* mat and framed at once, to keep them from being touched or rubbed and the dust; unless they be well covered with tissue or soft Manilla paper.

Landscape Backgrounds.

Landscape painting is an art in itself. It is so distinct and separate as a department of the water-color art that no

attempt will be made to treat of it at length here, and the student is therefore advised to consult works written especially on this branch, or seek instruction from competent teachers. This book, however, will doubtless be studied by many who have neither of those advantages by which to obtain this particular knowledge; and it may not be amiss therefore to treat a few general ideas under this head, though they must necessarily be very brief.

To obtain the forms with which this description of background must be composed—if it is desired to originate one of his own and not to copy the design of another—there is but one rule for the student's guidance: "Study Nature!" and as she is read so let her be depicted.

The general design being settled and his drawing made, he must endeavor to obtain a handling of the brush which will indicate *foliage*, and varying according to the peculiar characteristics of the tree or bush he would represent. It may be said that no two persons ever painted a tree with precisely the same feeling; the difference observable in the representation of foliage as painted by various artists is considerable, and worth studying.

Some employ the color as wet as possible, and merely *blot in* the *forms* of the trees, mingling light and shadow together, and trusting to the lights intended to be *taken out* by rubbing with a moist handkerchief, when the wash is dry.

Others use their color in a state almost dry, and the hairs of the brush, spreading abroad like a fan, are made use of rather to scumble the forms in than to define them properly. The distinguished English water-colorist Rowbotham, advises that a method *between* these extremes is the best.

In a former chapter on the properties and adaptations of pigments, many are spoken of as being the constituents of various greens suitable for landscape, to which the student can now refer, and by practicing somewhat he will discover their adaptations to the different parts of the background.

He must not, however, lose sight of the fact that his trees, etc., are only *auxiliary* to the idea centred in the figure and that his landscape effects must be of secondary importance. If by study and practice he happily succeeds in obtaining the correct *position* and *form* of natural objects —evincing in the handling thereof that easy, broad and "sketchy" manner so peculiar to the water-color art—it will be found that comparatively little work is required to furnish that which will *suggest to the imagination* a much more pleasing result than, with extraordinary particularity and labor, could have been produced to satisfy the eye.

These remarks are particularly applicable where it is purposed to execute the landscape ground in one tint, as for instance an India-Ink picture. Let the figure be photographed against a screen that will produce an ordinary tone of gray; then with various shades of Lampblack washes, throw in the *forms* of trees, shrubbery, rocks, water, straggling vines, clouds, etc. (according to design); strengthen these with shadow-washes blotted in according to the direction of the light, deeper and various as the situation requires. With a smaller brush and thicker color trace the shadows on trunks, branches, stalks, and add the more delicate as well as decided lines in the foreground—for grass, flowers, stones; remembering that the merest *spots* of color and indifference of line *if aptly given* will appear to the mind's eye as the graceful *abandon* of nature. The lights should be done with pure gray, and certain salient points with touches of Chinese White. If properly done, this method will be found quite useful and popular; and if the student has previously acquired the proper manipulation and the ability to reproduce nature's forms, he will find it more of pleasure than labor.

Much of the chromo-lithography of the present day serves an inestimable purpose to the student who aims to possess himself with the *true* ideas of landscape in water-color, afford-

ing convenient opportunities for studying the color and effects of the great English masters; and to a minute examination and imitation of these works—as well as the writings of Barnard, Penley, Rowbotham, and others—the more ambitious are referred.

Beyond all question, the ability to complete a *good* landscape background will demand of the beginner as it does of the artist *study*, earnest attention to nature, and care in the arrangement of all the parts. Above all, he should endeavor to attain a degree of "feeling" for the subject, in order to comprehend and imitate nature; not with a mincing particularity, but with a dignity, ease and breadth that will bring the imagination and the eye into complete harmony.

General Order of Painting.

Having given the manner of painting the various details it may now be considered advisable, if not essential, to recommend *to beginners* a general order to be pursued in treating the whole. Not that there *is* (as in oil painting) a certain necessary routine; but first, because this work will doubtless be used by persons having no opportunity to witness the manipulations of professional colorists; and, second, because a place is afforded here to record certain *incidental* directions which cannot be properly classed under any other special heading. It is *not* intended, by any means, to furnish an unalterable programme, but merely a light upon the student's pathway, which will enable him in a little while to travel alone.

In this general summing up too—as it might be natural to expect—there will no doubt occur many *repetitions* of ideas which have been expressed in previous chapters; but it is assumed that they have been sufficiently *studied* there, and will only be *alluded* to here. If they become tedious, our excuse is that we desire to *leave nothing undone* which

might be considered necessary or advantageous to the student's progress.

It may be further remarked at the outset, that whether anything shall be done upon the drapery, accessories, or background *before* working the face, is a matter to be determined by the colors which it is intended the picture shall contain. If it is to include any considerable masses of red or yellow (which in a reduced form will constitute the basis of the flesh), these *must* be introduced, to some extent at least, *first*, else the flesh will be overpowered.

☞ It may not be inappropriate just here to call attention to a matter which, if not of necessity, is certainly one of *advantage*, viz., *the order* in which the colors should be rubbed on the palette; for a judicious and exact arrangement with respect to the various hues, saves time and affords considerable *assistance* in after-practice. Ultimately the student will be best able to judge for himself, but at present he is *recommended* to place his Cobalt in proximity with Indian Red, Vandyke Brown, Light Red, Pink Madder and Madder Brown; Neutral Tint adjoining Vandyke Brown and Light Red; Indian Yellow between Venetian Red and Prussian Blue; Crimson Lake between French Blue and a little Sepia; Burnt Sienna between Indigo and Madder Brown; Yellow and Roman Ochres side by side; and the browns (the Sepias, Umbers, Bistre, etc.), by themselves—say, on the under side of the palette. India-Ink and Lampblack must be kept away from color, and should have their own *separate* palette, wash-dishes, etc.—for the sake of purity. Tints mixed in body-color, and those mixed with Gum Arabic for porcelains, must also be kept separate. These suggestions are based upon convenience, and the arrangement is more especially conformed to the directions and mixtures given generally in this work. The Vermilions, Whites, Emerald Green and Orange Chrome should be rubbed fresh.

1. With a clean brush and pure water, go over, thoroughly, all the flesh parts of the picture.

2. While that is becoming absorbed and partially dry, compound the flesh-wash according to the tint of nature—keeping in view the tone of the photograph (whether light or dark, brown or purple)—and apply it expeditiously with

a good-sized brush. Commence with the parting of the hair, and as the wash flows down, carry it into all the corners and upon the ears; but carefully avoid washing it inside the line of the eyes. Keep an abundance of the wash-color afloat and constantly moving, so as to avoid streaks—the result of too rapid absorption or drying. The rapidity of the flow can be regulated by the inclination of the board or easel. If one application of the wash produces a too feeble tone, do not apply a second until the first is thoroughly absorbed; and whatever deficiencies in tint become apparent after the first wash should be corrected in applying the second. As the student will find the subsequent painting has the effect of lessening the strength of the flesh-wash, it will be found of advantage in the first place to compound it to a degree *over*, rather than under the tone ultimately desired. It will also dry much paler, and if anything, the yellow should predominate. Securing a good flesh-wash greatly assists the subsequent work and the production of a successful picture.

3. Go over the lower lip with a limpid wash of Vermilion; if very dark, Rose Madder and a little Orange Chrome may be used. As these washes are turbid guard against producing hard edges. Indian Red is the generally accepted color for the upper lip (it being for the most part in shadow), though it is often necessary to enliven this Red with Lake or a previous wash of Vermilion.

4. Detail the most important shadows of the face (and as near as possible to their full strength) with the general shadow color, the red predominating. Many of the shadows, particularly those under the chin and sometimes the lighter one on the brow, can be put in with Indian Red alone. The other general shadows are in the sockets of the eyes, on the lower part of the nose and under it, and below or behind the ear. These shadows are to be partly washed and partly hatched.

It is here necessary to remind the student of one *very* essential point: *Keep all the flesh-shadows* TRANSPARENT. Endeavor to manipulate the color so as to be able to *look into* the shadow; and as photographers do not always arrange their screens so as to save the artist this labor, it is important that the matter be understood and attended to. Therefore when this disagreeable blackness occurs beneath the eyebrows, under the nose, behind the ear, under the chin, or on the shaded side of a three-quarter face, a thin wash of Vermilion, Light Red, or Venetian Red, will suffice. If the shadow is intensely dark, use the color stronger, avoiding a heavy or daubed appearance—the Vermilion being opaque. When the shadow is of an ordinary degree the last-named are preferable. If a greenish tinge is wanted in the shadow, use a mixture of Olive Green or Brown Pink and Pink Madder.

It may be remarked, however, that since the adoption of the more recently introduced practice of Retouching the Negative, these intolerable dark shadows may be easily dispensed with before the photograph is printed; thus giving to the artist an unobjectionable basis, and relieving him from a great deal of perplexing and unnecessary work. Except in copies and old-style photographs, the presence of intensely dark shadows should not be found. With the advantages which photographers now possess a recurrence of the fault referred to is inexcusable.

While upon the topic of illumination it is proper to allude to the *reflected* lights, which produce rotundity of the flesh parts. These should *always* be kept *warm*. For this reflex —which usually occurs on the outer edge of the shaded side of the neck, on the shaded side of three-quarter faces when rather dark, upon the arms when bare, and the limbs of children—use *very* limpid Orange Chrome with a little Burnt Sienna, sometimes Scarlet Vermilion alone.

5. Now proceed to draw the lines of the eyelid, which

may be done with Burnt Sienna, Madder Brown, Lake and Sepia, or Indian Red. The last is best adapted for children. A mixture of the two first-named—sometimes allowing one or the other to predominate, according to circumstances—is very useful. Do not draw the edge of the lower lid too distinctly, as it tends to make it look contracted and the whole eye sleepy.

With one of these mixtures the nostrils may be indicated; although where they are large and transparency is required in the shadowed cavity, Vermilion should be used. The partition line between the lips may also be drawn, but as the exact course of this line is often indefinite, it is well to progress somewhat in otherwise painting the mouth before defining this line with too great exactness; the slightest error in so doing may alter the expression of this very susceptible feature.

6. Paint the eyes: and as this feature is "the light of the countenance" and the very climax of the portrait, considerable attention has already been given (in a previous chapter) to the manner of doing it properly. The student need not be urged to the importance of being able to paint *good* eyes, or be reminded of how far they serve to make up an excellent portrait. He may otherwise succeed in developing a good *picture*, but badly painted eyes will always prevent his rendering a good *portrait.*

7. The coloring of the cheeks, ear-tips, chin, and the introduction of the carnations generally may now be done. The lips having already received a local wash should be heightened and finished with Pink or Rose Madder. The partition-line between the lips and the corners of the mouth can now be specifically defined.

8. Put on the local color of the hair, eyebrows, mustache, or beard. If the picture is large-sized it is best to precede the hair-wash with one of pure water. The form and direction of the hair is generally well indicated in photographs,

but as that of the eyebrow is *not* (throughout its entire length), it is proper to note here that they differ somewhat from the hair of the head, and are usually darker. They are seldom or never perfectly "arched" in nature, so that to paint them in that style is palpably wrong. They are always heavier as they approach the nose, and instead of being parallel with the eyelids they are always nearest the eye at its inner angle. Be sure to avoid stiffness and the wiry manner in which the eyebrow is too often drawn.

9. Work on the bluish shadows over the temples, at the corners of the mouth, and under the lower lip—using Cobalt. Also in men's faces, where may occur the bluish traces of a clean-shaved beard. Most of this must be done by stippling.

10. The face being considerably advanced it is time to wash on the local tint of the background; although some may prefer doing this before painting the hair. However, as the hair still remains to be finished, this operation may be considered timely here. By so doing we can also better determine the depth of color necessary for the face and hair. The effect of the untouched part of the photograph around the head is to make the colors, by contrast, darker than they really are; but let a dark background be worked in, and then the flesh tints which before this appeared dark enough, will now look considerably paler as compared with the dark background.

11. Whenever this is the case, as it most usually is, additional color should be added to the face; but this time it cannot be washed, and must be hatched on—the lines following the direction of the features, and never crossing each other at right angles. This exigency will remind the student of our former observation respecting the advantage of a *strong* flesh-wash at the commencement of the work.

12. The principal shadows of the face having been all put in and the lights scrupulously reserved, if it appears that

the high lights—on the forehead (the chief one), tip of the nose, and chin—are still insufficient to produce a good effect, they can be increased in clearness by a *slight* "rubbing out" of the flesh-wash with a piece of very soft and clean India-Rubber. Great care, however, must be used in this operation, lest the rubbing—which should be done by a light circular motion—will produce a hard edge around the light spot obtained, whilst the surface of the paper will also be made rougher than the rest of the face. [It may perhaps be thought unnecessary to cover up the lights which are afterwards to be taken out, but lights *taken out* from a body of color are much more effective than those which are *left* during the painting.] This intensifying is sometimes done by using Chinese White; but it is very heavy and unless applied with extreme delicacy, produces a daubed effect. Flake White, possessing less body, would be preferable.

13. Detail can now be given to the hair, whiskers, mustache, etc. Remember the former directions to avoid a stiff and wiry appearance of the lines. Such stray locks as lie against the face should be worked in a soft manner, using the color with less strength, and leaving no hard edge-lines. Where the hair is made to commence at the roots, at the parting, and along the temples and ears, paint with delicacy (always working *from* the roots), so as to blend the hair with the flesh. Soften with gray the entire line of the hair around the face. Also give some horizontal touches of strong color *in* the eyebrows, where they approach the nose or where the hair naturally grows the thickest. If what has already been done in the background is sufficient, the outline of the head may now be softened, to avoid the effect of appearing "inlaid."

14. A general examination and correction may now be given to the entire face. Soften and round such parts as still require it. Remember that shadows indicate the form;

therefore see that the stronger ones are very *full* and *warm* in color, accurate in form, and let every shadow have a gray edge. Keep the half-tints broad and cool. If any of the shadows have been made too purple, neutralize them with green; if too green, work on them with purple; if too blue, hatch them with orange (Venetian Red and Yellow). The deep shadow under the chin may have a little Sepia with it. If the hatching has been done with a too wiry effect, work very lightly over it with a brush just moistened in plain water, to blend and soften the lines.

Although there is a little of the greenish tint in nearly all faces it is noticeable that some contain a great deal—especially those of women and children, where it serves greatly to enhance the carnations. The edge of the shadow on the forehead is sometimes greenish, and in female faces it may be introduced delicately on the neck, and in rounding the cheeks and chin. In like manner it may be used at the angles of the eyebrows and nose. In compounding a green for this purpose make it of a rather yellowish tone. [In recommending the use of green, however, we desire to explain to the student that this color is *not* to be used with such force as to give to any part of the flesh an actual *green* but a merely green-*ish* tone; and he should guard against the habit of its over-use. Nothing is more distasteful to a discriminating eye than this *abuse* of green, because it suggests disease.]

Strengthen the "touches" if necessary; but exercise care in giving definition to these, lest the expression become changed. Perhaps the carnations need intensifying and the lips some additional roseate hue. Endeavor to give these last applications on the cheeks in the spot which seems to be the very outer point, and where the color *naturally* reaches a climax. In females, and more particularly in children, this additional color if done properly with Pink

Madder and a very little Scarlet Vermilion, will produce that delicious effect termed "waxy" or "peachy."

15. The face being now virtually painted, it needs a general finishing and softening with the "cool gray tint,"—Cobalt and Indian Red—or Cobalt and Pink Madder, the "pearly" tint. Make all retiring and rounded parts gray. The general tint of the neck being paler than that of the face its shadows are also to be made cooler. This will necessitate a liberal use of the gray before-mentioned, which should be of a bluish tint as its application nears the bosom and upon the light side of the neck. Perhaps the working of Cobalt alone over the Indian Red shadows will give the desired gray tone in many places. It is not only proper but important to remind the student that a clean and bright gray tone will only result when the blue is worked *upon* the red; but if in the opposite order the gray will be muddy and bad. This gray should be used plentifully around the eyebrows and every place where the hair comes in contact with the flesh, in order to prevent harshness. The outer terminations of the eyebrows should be so worked with gray as to appear *lost* in the flesh.

16. Attention should now be given to the painting of the drapery; but as full directions have been given elsewhere it is unnecessary to enlarge further here. However, attention has not yet been directed to the fact that rows of buttons, etc.—especially prominent in women's and children's dress—increase in size as they become distant from the focus-point, the face. Remember to *correct* this faulty drawing and define them *alike* in size.

As a cardinal rule, the student should never "kill" the flesh by the selection of an improper color for the drapery, but rather choose such as will harmonize with and enhance the tone of the flesh and improve the figure.

17. It may appear singular to the student that nothing

has thus far been said respecting the arms and hands, except to assume that they have already received the flesh-wash as noticed in Section 2. Our reason is, that when the photograph contains arms and hands, it is *preferable* to reserve the painting of them until (at least) the local color has been given to the surrounding drapery—or even until it is finished, as by so doing, the proper degree of color is more likely to be obtained at a single painting. If painted before instead of after, the probabilities are that the strength of the drapery-color has rendered the flesh-tint too feeble, and the work will have to be gone over a second time. Directions for the painting of these having been given fully elsewhere, it only remains to add here, that all the edges must be softened against the drapery, and the flesh-color kept to a tone subservient to that of the face.

[Indeed, it is a rare thing in photographic portraits, that the hands and arms are found sufficiently well posed and proportioned to add any beauty to the whole; but on the contrary are for the most part too large in men, and so lanky and angular in women as to puzzle both photographer and artist to render them in any degree picturesque.]

18. Painting chairs or table-covers, the introduction of curtains or other accessories, and a general finishing of the background will almost conclude the student's labors. In so doing he will remember to soften the entire edge of the head and figure against the background and preserve such a unity of idea that the eye of the spectator is *drawn involuntarily* TO THE PORTRAIT, and not misled by any over-colored accessory. It is opportune also to warn the student against bad taste in breaking down his picture with too many accessories or too much elaboration in the background; remembering that it is only proper to add curtains, carpets, and the like, when it is *desirable* or *necessary* to assist the position, or introduce a color as complementary to

the drapery of the figure, and therefore give it additional beauty and power.

19. The work of painting being now finished, thin Gum Arabic may be applied where it is necessary to produce brilliancy, and to give depth to the extreme shadows. But as heretofore advised, it must be used with great caution, in order to avoid harshness and a vulgar effect. The less that is used the better!

Sometimes the surface to be painted contains small specks, little discolorations, or foreign matter in the paper, which must be got rid of; and which, if they have not been totally obliterated in the process of coloring should now be touched out of sight with opaque color, Flake or Chinese White, tinted to suit the locality; but this operation must be done with great delicacy, and the color used not too heavy, lest the touches will have the appearance of pimples. Frequently it becomes necessary to use the eraser, after which the spot must be burnished down a little, and even then sometimes retouched with body-color.

20. In conclusion, the attention of the student is called to the fact that as he is supposed to have been gazing *uninterruptedly* at the picture before him, the eye is apt to weary, and he may overlook deficiencies which he would readily detect at another time with his vision afresh. Therefore, it is recommended that he shall ease his eye by *reversing* the position of his picture, which can be done conveniently by viewing it in a mirror, and this being done, he will not only find the change agreeable but he will also be the better able to discover any existing faults, which otherwise might have passed unnoticed. The use of the mirror is especially an excellent method of testing the correctness of his *drawing* in the background and accessories.

Indeed, during the whole work—say about once every hour—it is of advantage to leave the easel or cast the eye upon something distant for a few minutes; thereby relieving

the strain upon its focus and giving it rest. Furthermore, after looking some time at a *color* the retina becomes fatigued and to a certain degree incapable of seeing it as it is; wherefore, unless it can be restored by looking at the color compensatory to that by which the strength was impaired, *rest* must be had.

NOTE.—The foregoing chapter has been written on the supposition that there has been but *one* copy of the photograph in hand, because it is more desirable that the student should exercise *care* with *one* than *indifference* with *two*. Nevertheless, the advantage of a *duplicate*, when it can be had, is important, and which if it does no good it certainly can do no harm.

Working in India-Ink.

To those who are not conversant with the details of a photographer's labors we may say, that *very few* negatives are manipulated *so* perfectly as to render the prints made from them *totally free from speck or blemish*, however slight. These imperfections, arising from the use of indifferent chemicals and bad handling, and sometimes from causes beyond the operator's knowledge and control, are much more likely to appear in the production of large than in small-sized negatives and pictures.

The presence of these imperfections and the consequent necessity of "touching them out" of sight in the photograph doubtless gave rise to that description of artistic labor of which this chapter will treat. Commencing as a simple *necessity* with the photographer, it has advanced in the hands of the artist to results among the finest and most appreciable in modern art.

The pigment known as India or Chinese Ink having been always used by architects and draughtsmen in general as a convenient and an acceptable black, was naturally adopted

by the photographic profession; and although its original use (for Oriental chirography) is as a positive black, it is susceptible of giving with clearness and beauty all the shades between white and black, and has been permanently adopted by the professional colorist.

Notwithstanding it is beautiful, delicate and transparent, it will generally be found wanting in *power* for the deepest effects in large work—Lampblack being preferable—although a certain degree of strength may be obtained by adding the latter to the former, without altogether impairing its characteristic beauty and clearness.

The student should be particular in trying to obtain a piece of *genuine* India-Ink—much of that in the market being coarse in quality and only an imitation. The spurious article will be found very highly scented with musk, and containing so much gum that it is very hard and too glossy. The possession of *genuine* Ink having a *neutral* tone is no small advantage at the outset, because it intervenes no drawback to the accomplishment of good work, and can be toned to suit the photograph in hand.

India-Ink Work is simply *drawing* with the brush and color instead of the pencil or crayon. It is therefore very evident that he who has the best acquaintance with the art of drawing will accomplish the most in India-Ink work. The principles which govern light and shade—*chiaro oscuro*—comprise the very foundation of success in this branch, and should be perfectly understood.

The advantage of color to assist in imitating an object is wholly absent here, and a favorable result must depend entirely upon the correctness which has been given to the form, together with its lights, shadows, reflexes, strength or delicacy, and tone. Especially is this the case when working up the pictured human countenance; and whatever be the student's knowledge or ignorance of facial anatomy, it will become the most apparent in this description of work.

He may very often be required to display his abilities upon faces which over-intense negatives have made perfectly white and flat—devoid of half-tones and perhaps without any graduated shadows at all—in which exigency he will at once discover the absolute *necessity* of acquainting himself with anatomical drawing—at least so far as it applies to the face.

The order of procedure with Ink-work is mainly about the same as with color: commencing by a definition of the heavier lines and shadows of the face, and continuing the same with the hair—thereby imparting a vigor quite different from the untouched photograph.

Such details in regard to the manner of working—drawing the features respectively—as have already been given, will suffice to direct the student here; besides which, the photograph itself will assist him more than in the former case where some of it becomes partially obscured by local washes.

In using the pigment itself the best form is that akin to a wash. It should rarely be applied thick enough to accomplish the desired shade at once—except in positive lines, such as occur in the hair. The weightier tones, required to give strength to the deeper shadows, ought to be obtained by successive applications of moderately thin color, else transparency will be lost and sootiness ensue. The student should take as his motto, "Little Ink and much labor."

The flesh must be worked by hatching and stippling as heretofore mentioned, and reduced to evenness of shade by going between and around such spots, harsh lines, and rough places as have been photographed from the skin—in cases where these asperities have not been softened or remedied by retouching upon the negative. In so doing, commence with the stronger portions and proceed toward the higher lights, at the same time reducing the strength of the Ink. If the print is of neutral tone, there will be no diffi

culty in obtaining a clear, silver-gray light on the forehead, nose, and other prominent parts. If this tone be desired, it is quite convenient to have two washes at hand—one toned with blue (Cobalt), for use in the light parts, which should always be clean and brilliant.

Concerning *tones*, however, there exists a great variety of opinions. Formerly everything was neutral; at present the tendency is for the so-called "warm" tones, and in plain photography the results are divided between reddish-brown, brown, purple, and purplish-brown. To imitate any one of these as a rule will scarcely do, nor would it be found very easy to accomplish by a *process* of the hand that which is a chemical *result*. But on the whole it is easy to choose between a *cold* and *warm* tone, and the student can decide which is the more practicable and pleasing. To obtain the former, if the Ink is not neutral, use Cobalt; for the others, add Dragon's Blood alone, or with Sepia for a brownish and Indigo for a purplish tinge. After all, there are so many photographs which baffle any *tone* whatever—except a dirty yellowish-brown—it is best to adopt no special rule on this subject.

In general the face can be *finished* before the drapery and background are touched, except it be a vignette head on a white ground, in which case the washes that are to serve as a basis for the clouding should be laid *early* in the work. This will enable the student to better estimate his tone and strength of shade, which would otherwise appear much lighter after the cloud-washes are put on. The remaining portions of the picture are to be completed according to instructions given in previous chapters.

It should be observed that as the photograph gives *no true* indication of the natural color of the hair and eyes, it is well to ascertain *what* they are, so that there be no uncertainty concerning the tendency of your working, whether toward light or dark, as the case may require. Without

this knowledge the photograph itself may induce grave errors; whereas it is *intended* that in Ink-work the natural *color* shall be, as near as possible, indicated by the *tone* and *depth of shade.*

The drapery in most instances will have to be done with Compound Black. India-Ink lacks power, except when used very thick, and *that* is not to be permitted, as it would totally obscure the texture and smaller folds. Lampblack possesses abundant strength, but it is also too opaque; whereas the Compound Black—Indigo, Lake and Sepia—is no less transparent than powerful, fresh and permanent. Nor has India-Ink, of itself, a good tone for drapery; although it may sometimes be used in vignette pictures, which as a rule do not require and should not have the *strength* essential to the drapery of a bust or figure with *solid* background.

The hands are most generally surrounded by the drapery, and for this reason appear too white; especially so as compared with the face. It is therefore necessary to *break* this whiteness by a very light wash, preparatory to further working; and then when being modelled, if they are flat and deficient in rotundity great assistance is derived by rubbing out the lights as they occur on the knuckles and joints. Remember too how the outer edges along the black drapery need a blending-touch of *pure* (normal) gray:—"colored" gray must *never* be used in Ink pictures.

Photographs to be finished as "India-Ink work," should be printed a little darker than usual, from the fact that they work up *lighter*, and in order to secure all the half shades. Those are *best* adapted to this branch of the artist's labors and most easily finished which abound in the *half* shades; which being well developed, the student or artist will have no difficulty in working up the high lights or graduating to the deepest shadows.

If blue (Cobalt) has not been used in the modelling, as already suggested to impart a brilliant tone to the delicate

shading about the highest lights, clearing them up to a beautiful gray tone, it must be worked in now; but it must not be carried so far as to disclose the presence of, and actually look, *blue*.

In the smaller-sized pictures it is often desired (by customers), that the cheeks be tinted; and indeed—though it be not strictly artistic or legitimate—it is not to be denied that Pink Madder is of advantage in warming the tone and giving freshness and the effect of rotundity to the cheeks.

Sometimes also a delicate first-wash of Indigo may be laid for the clouding about a vignette head; but it should *not* be done if the photograph has anything of a muddy or brownish tone. The pure tint of the Indigo would conflict with any photographic tone but the neutral or gray, while it also tests the cleanliness in the working of the Ink.

India-Ink work is always expected to be done on "plain" paper; but if it is desired to retouch or work up a face on *albumen* paper, it will be necessary to mix a very little Gum Arabic with the pigment to give it sufficient adhesion and overcome the "grease" of the albumen surface.

This method is receiving more attention than formerly but chiefly in the principal city galleries, where *fine* work is appreciated and paid for. Though the smoother surface affords a more distinct and brilliant ground for the artist's work, it is undeniable that the picture *cannot* be considered *permanent*, and the extraordinary patience and labor required will scarcely render it popular or remunerative.

Copied Pictures in India-Ink.

Perhaps the most common and important use of the India-Ink process is for working up photographed *copies* of old daguerreotypes, ambrotypes, miniatures, reproducing photographs, etc.,—valued likenesses of deceased friends —and by this means restore the faded or injured picture,

rendering it suitable to be framed; and in view of this the student should comprehend and discriminate between the uses respectively of Ink, Lampblack and the Compound Black—in what situation to apply them, and what effect they will have. Sometimes one will answer well where another would not do at all; and in copies where there are generally many drawbacks it is certainly advantageous to *know* how to be able to do the best thing in the quickest way. As the imperfections of the copy can for the most part be more easily corrected and hidden by the India-Ink process than with color, it is preferred.

The specks and blotches must be stippled over in the dark parts; and in the light parts, if they cannot be taken out by working or with India-Rubber, they may be covered with Chinese White, or gray, as the situation demands. When the copy is weak and very dim, gather up the half tones *before* drawing the more definite lines or strengthening the deeper shadows, because they are more perceptible *then* than they would be afterwards; and especially after the eyes and hair are worked. Not unfrequently great assistance is derived from making a difference in the tone of figure and background—keeping the figure *warm*, against a *neutral* ground. Furthermore, if the copied figure is a mere shadow (and this is not a rare case), it will gain strength by making the background quite *dark*, which can be done by pastel to any degree. When these extreme necessities arise, *any means* by which *the effect* is produced must be considered legitimate and proper.

As a general thing the working up of copies will require *more force* than a photograph from life, and *more care* too, from the fact that the enlargement of the copy has produced diffusion of the lines and a general indistinctness. Frequently this extends to such a degree as renders it *impossible* to work without constantly referring to the original for guidance; and the student is advised for these reasons not

to undertake a *copy* unless he has the *original*,—or is otherwise thoroughly posted.

The method of working backgrounds in Pastel will probably be employed more frequently in doing these old copies than for any other purpose, and the student is now referred to the former chapter on *Gray Pastel for India-Ink Work.*

THE USE OF OTHER PIGMENTS.—The difficulty already mentioned of obtaining with India-Ink a degree of power which would make it applicable to the largest (solar) photographs, will be most likely to suggest or even necessitate the adoption of other pigments and compounds for this species of pictures, although the old and familiar name of "India-Ink" still attaches to the finished work.

Among these substitutes perhaps the simplest and most useful is Lampblack, with which the student will be able to produce every gradation and depth of shade. Lampblack is chiefly available for large work on account of its opacity, which accelerates the labor because every touch of the brush produces an instant and positive effect; whereas India-Ink dries considerably lighter than when freshly applied. If a warm tone is desired, add a little Sepia and Lake. An excellent combination is made by adding some Dragon's Blood to the Lampblack, and then just enough of Indigo to correct or neutralize it.

The Compound Black—Indigo, Lake, and Sepia—is also a good mixture for this purpose, and preferred to Lampblack in those parts where clearness is more essential than power. It may be composed with a cold or warm tone, by allowing the first or the other two to predominate; and this choice gives it the advantage of being suitable to almost any tone of the photograph. It is beautifully transparent and can easily be manipulated with clean and brilliant results.

To obviate the fugitive quality of the Lake contained in the mixture and secure the *utmost permanence*, the Madders

could be used instead, although these will be found somewhat objectionable; as they are deficient in power.

In all descriptions of "India-Ink Work," the use of White—Chinese or Flake, according to the brightness required—must not be forgotten for collars, laces, linen, and other pure lights. Opaque gray (Lampblack and Chinese White) will also be applied for the half-lights, according to situation. Gum Arabic must be used sparingly to produce the extreme depth of shadows, and give lustre to the hair, eyes, jewelry, buttons, etc. Remember too that upon *black*, more than on any color, the Gum produces an instant and powerful effect.

Painting on Porcelain.

Whether plain or colored, porcelain pictures are avowedly superior in softness, finish and brilliant effect, to anything which the photographic art has thus far accomplished. The skill of the artist is here greatly aided by the delicacy of the surface on which the photograph has been printed, and the result is a pictorial effect far surpassing that of the finest miniatures on Ivory, and produced at very much less expense.

Porcelain photographs intended for coloring must be invariably made on plates which have a granulated and not a polished surface. It would be folly to attempt the application of water colors upon the latter, for general purposes, though it *can* be done, to a limited degree, after coating the plate with a thin solution of white glue. The granulated plates, however, which are specially prepared for the purpose, afford a good and a sufficient "tooth" to hold the color and give altogether a better opportunity for working.

For the most part, the handling is the same as for photographs on paper, except that the following points must always be kept in mind: You paint *into* the paper whilst you

paint *upon* the porcelain; the paper *will absorb* the color, the porcelain *will not.*

Consequently, a less amount of the work can be done by washing than on a paper picture, and by far the greater part must be performed by hatching and stippling.

Even the small amount of washing necessary must be treated in a manner peculiar to this style of work. It should be commenced with a *full* brush, which must not be lifted from the plate until the part to be washed has been entirely gone over, unless it is absolutely necessary to do so for more color. It is best when possible to always *start* with *all* the color required. In washing, the brush—which ought to be a very soft one—should be moved regularly and steadily, very slightly raised from the surface or scarcely resting its own weight upon it, in a horizontal direction, and serving rather *to guide the flow* of the wash than to be the instrument for laying it on.

As there is no absorption, it will in general be found necessary to make the wash considerably *above* the tone required when it is dry. *Never go back* with the brush to retouch any part of the surface not yet dry, as it will "wash up" instantly.

In treating photographs on porcelain it is quite *essential* that *all* the color used should have a very little pure Gum Arabic mixed with it to give it strength and adhesiveness, but the utmost watchfulness is required to avoid the temptation of making a *too free* use of it. Porcelain painting is so excessively tedious that the student's patience is likely to become exhausted, and so sure as he endeavors to obtain "the more haste" by the over-use of Gum Arabic, he will ultimately find it "the less speed," as his work will only crack and peel off. Porcelains persecute patience!

What has been said above concerning the use of gum is to be understood as applying to the *transparent* pigments

rather than to those which are semi-opaque—Yellow and Roman Ochre and Lemon Yellow—and not at all to the real body-colors: Chinese White, Vermilion, Orange Chrome and Emerald Green.

In hatching and stippling let this be a fixed rule: *Never give an after-touch until the previous one is entirely dry;* or in other words, do not give two successive brush-strokes or touches *on the same spot.* Where additional depth and strength of color is required it must be obtained by successively working over at different times; and it will be found no easy matter to do this with regularity of shade and evenness of surface. If this *can* be accomplished, however, it will surprise the student to discover what a solidity and strength can be attained after all in the porcelain process; and that in these qualities it is no less admirable than in those of delicacy and beauty.

While engaged in the work of painting the hand should not be permitted to rest upon the plate, as it will impart grease and interfere more with the adhesiveness of the color than is the case on paper. If no rest-stick is used, and the hand must find support on the plate, use a piece of paper underneath it.

It will be found that the smooth and non-absorbent surface requires the almost constant use of a *rather dry brush*, and not much color for working the lighter parts; in the heavier parts the color must be quite thick but not by any means so thick as to produce a daubed appearance.

The majority of porcelain pictures are done in vignette style. This requires considerable attention to the clouding about the head, and affords a fine opportunity for delicate aerial effects. After the cloud-wash is dry, the edges can be beautifully softened by gently patting them with the end of the finger covered with a handkerchief or cloth and very slightly moist. In addition to this blending, semicircular white spots like openings should be taken out with the

brush; and if done in imitation of nature these simple expedients add much to the general result.

If the picture is a copy and contains any of the usual spots and streaks, they can be stippled out with Neutral Tint. Gold should be done by first laying a base with Roman Ochre, thick; then add high lights of Indian Yellow and Chinese White. All clear, brilliant "touches" will need to be done with body-color.

The *correcting of errors* is easily done by moistening the part to be altered and washing off the paint with clean water. This is a simple though a nice operation and must be done so as not to damage the adjacent parts. Indeed, if the entire progress which has been made in painting does not please, the *whole* may be washed off; but this should be done under a *flowing* stream of clean water, in order that none of the color-matter be allowed to remain *elsewhere* upon the plate after it has become detached from the picture itself, as it would leave just enough of a stain to soil the purity of the granulated surface. In this respect porcelain even offers an advantage over paper, and often a very important one too; often seeming almost *compensatory* for the extraordinary degree of time and patience required in its general manipulation.

Another method of correcting errors, particularly with regard to tone, is by *scratching off* the color with the eraser or a smooth bit of pumice-stone. This should be done with parallel strokes, except in the flesh, where the pumice-stone is preferred and should be used with a circular motion. The latter also gives one means of putting high lights where they are principally deficient in the flesh—especially the principal light on the forehead. Parallel scratch-lines, at an angle of forty-five degrees or less, give atmospheric effect to the clouding about a vignette head.

With regard to the *subjects* most desirable for a painting on porcelain, the student will discover after a little prac-

tice, that a child's picture (vignette head) is the most pleasing to work upon; and he will feel justified in giving it the benefit of *all* the resources of the porcelain method. He will naturally and unconsciously incline toward the *ideal* in treating these innocents; and in addition to a *preservation of the likeness* he will strive to make *a beautiful picture.*

Women's portraits will claim his preference next in order, but he will find them rather less inspiring to his genius. The necessary use of a more decided style of working, stronger lines, and the introduction of so much drapery, together with the accessories, which require abundant patience, will doubtless cause him to wish that he was working on paper.

Last of all and least of all will be his ambition to delineate the face of a man in a way which finds no parallel in nature. The vigor, strength, and breadth with which he would feign characterize *manhood*, are not attainable by this process; and the inevitable result *must* be a *beautiful* man! a wax-figure! a painting which instead of "holding the mirror *up to* nature," goes immeasurably and absurdly *beyond* it!

Ivorytypes.

The invention of the Ivorytype is awarded to Mr. Wenderoth, the distinguished Philadelphia artist. Upon the introduction and use of the porcelain surface, however, as a basis for the colorist's work, the days of the once famous Ivorytype it may be said were numbered, as it is impossible ever to achieve, in the production of the latter, the brilliant tone and delicacy of finish which is incident to, and inseparable from, the porcelain picture.

In a few words, the Ivorytype is simply *a painted photograph sealed to a clear glass plate.* There are a number of points, however, in which the operating of the picture for the Ivorytype *differs* from that of the ordinary painted photograph, namely:

It must *not* be mounted on cardboard, but stretched tightly upon the drawing-board. In order to do this, the photograph should be printed on a piece of paper which will allow sufficient margin for pasting down. Moisten the entire sheet and lay it flat on the board, permitting no air-bubbles to remain underneath. Paste down all the edges, and let it dry slowly, keeping the board perfectly level. As the contraction of the paper in drying will cause a very hard strain on the pasted edges it may be advisable to have them secured by tacks or weights.

The photograph thus mounted upon the drawing-board, is to be treated with special attention to the following particulars, viz.:

1. The painting must be executed with more than ordinary vigor and force, so as to provide against the diminution of tone and effect which, it will afterwards be seen, occurs on sealing it to the glass.

2. No body-color should be used, except when actually necessary. In laying on the white for laces and the light parts of linen, etc., do it very lightly—perhaps Flake White is best.

3. Give preference to the *transparent* colors; for as the object of the wax is to render the entire picture transparent, it is plain that opaque colors will resist its effect, and seem to lie dead and hard upon the painted surface.

4. In working certain folds of the drapery it is better to *preserve* the lights as they are in the photograph, than to restore them with the aid of body-color. For the light on the eyes, however, and a few other special points, Chinese White can be used with propriety.

5. Do not use a particle of Gum Arabic, because it will prevent adhesion to the glass plate; and if the deep lines and shadows are painted with sufficient strength, its ordinary use as a varnish will be supplied by the wax.

When the painting is completed, lay the glass plate—

which must be perfectly clean and polished—upon the picture; and being properly adjusted *cut out* the painting so as to exactly fit the glass (unless there be reasons for doing otherwise); but it is a great advantage in the hurried operation of sealing not to be obliged to adjust the picture then —which would be necessary if it were larger or smaller than the plate.

The composition-wax used in sealing is variously compounded by different artists; but a mixture of one part of Gum Copal with two parts of pure white wax will suffice for ordinary purposes.

The operation of *Sealing* may be described as follows:

Heat the glass until warm enough to melt the wax-compound while being passed over it in a horizontal position. Let every part of the plate be thoroughly coated—as it is the Gum Copal which gives lustre to the finished Ivorytype. While it is still warm, lay on the picture, face to the glass, in such a manner as not to work off any of the melted composition, or to produce wrinkles, or leave any air-bubbles underneath. The back of the painting is now supposed to be uppermost. Keeping the plate still warm, rub a piece of pure white wax alone slowly over the back—melting as it moves—and then, with the straight-edge of a small bit of cardboard held almost perpendicularly, smooth the picture down flat upon the plate. In doing this, rub gently *from the centre* in every direction toward the margin; and be particular to push out the very last crease or air-bubble. Do not press the card-board hard enough to drive out *all* the composition first laid over the plate, or the brilliancy of the work will be lost. As before mentioned, the Gum Copal imparts the brilliant effect and the wax gives it transparency.

It will be readily seen that this operation must be done with quickness and certainty; and hence it is best to have everything fitted and prepared *before* the sealing is commenced.

The painting being attached to the glass, it now only remains to fit a piece of pure white paper (card-board is better) to the back—the effect of which is seen through the transparent picture—and the Ivorytype is completed. Before doing this, however, it is well to consider the extent to which the colors have *faded out* in the process of sealing; and if they need restoration and strength, apply some additional color in its proper place, *on the back* of the sealed painting. This necessity is most likely to occur with the carnation-tints.

In selecting a glass for this purpose French plate is the most desirable, and any other than clear *white* glass will necessarily somewhat mar the general purity of the work. Ordinary glass having a greenish tint should not be used, if possible; and equal care should also be exercised to obtain plates entirely free of streaks, bubbles, or scratches.

It may be opportune to remark here that, beautiful as the Ivorytype is when first finished, it becomes liable to serious discoloration. The wax-composition, no matter how pure the ingredients, will in time produce sufficient yellowness to mar its original beauty. Notwithstanding this deficiency, however, it is easy to suppose that but for the introduction of its greatly superior rival—the Porcelain—its glory would doubtless have remained undiminished as an excellent and practicable successor to its prototype, the Ivory Miniature of "auld lang syne."

Large Solar-Camera Pictures.

The handling of the large-sized solar photographs is a matter of progression. If we can safely premise that the student has become thoroughly familiar with *the principles* involved in and the directions given for manipulating smaller and medium-sized photographs, our observations under this head need tend only to an expansion of the knowledge he already possesses.

The important characteristics of the successful solar picture are force, breadth, easy handling, and a total absence of timidity and delicacy. The washes must be done broadly and with an abundance of color, and the lines given without trepidation or stiffness. The finished pictures should indicate on the part of the worker a sufficiency of knowledge and a mastery of the brush.

According to the instinctive laws of vision, *a picture should be viewed at a distance equal to three times its size.* Indeed a more distant point may be agreeable, but rarely one nearer; except with persons of defective vision—and even then the eye wanders over, rather than embraces the whole. Consequently, it is plain that the entire handling must be executed with a clearness and power sufficient to realize the desired effect when viewed at a proper distance.

It is scarcely to be expected that the student will accomplish this without considerable practice. His previous work has been of dimensions which could be inspected perhaps without rising from his seat; but *now* his manipulation, horribly coarse at the drawing-board, is softened by the prescribed distant view,—and it therefore follows that only by constantly taking this view-point can he watch his progress and attain the true result.

The student has been told in a foregoing chapter that Hatching is the most desirable and effective manipulation for large pictures, and he will therefore adopt it for solar work. The time of Stippling has gone by, except for some few necessary touches, and the disposing of spots. The small-sized brushes must give place to larger ones, color must be prepared and used without stint,—"laid up loose," —and a more artistic style of action adopted throughout the whole working.

It is impossible that this description of labor can be performed with ease and convenience at a desk or table. The *Easel* here becomes a necessity, and so too the *Rest-Stick.*

The length and strength of the hatch-lines, which the student will now endeavor to draw with a graceful sweep of the brush, demand a firm support for the hand and an almost vertical position of the drawing-board—except in flowing the washes. The dimensions of the picture also *forbid* that the arm should be constantly wiping over its surface, which would be the case if lying nearly flat; and the facility with which it can be raised or lowered so as to bring the working-spot right to the hand, clearly demonstrate the expediency of using the Easel *now*, if never before. Especially so, if the background is to be done in pastel, which would be marred by the very slightest touch—and this too makes the Rest-Stick indispensable.

If the solar at hand is to be done in (the so-called) "India-Ink" style, the student must not forget what has been already said concerning the inefficiency of the India-Ink itself for large work and the usefulness of Lampblack. The Compound Black, when mixed to a deep tone, is also quite available for solar prints and important in finishing the drapery. Indigo added to Lampblack gives a depth sufficient for any shadow the drapery can possibly require.

Framing the Pictures.

The framing of the picture can scarcely be regarded as a matter of *taste* alone.

Though not strictly true, the *theory* of photographic painting is, that the work has been done *upon a white ground;* as is the case in *pure* water color painting, where the transparent pigments so modify the light falling upon and being reflected from that white surface as to produce the effect constituting the picture. Hence, *some indication* of the *presence* of the supposed *white ground* must be given, and for which reason *white* margins are almost invariably used.

In vignette pictures there is nearly always sufficient white margin to answer this purpose, and a tinted mat can

be used; but if there is not, or when the background is solid, a *white mat* becomes indispensable. The use of a *tinted* mat is, to say the least, dangerous; and only permissible when it is of a tint harmonious with the general tone of the painting, or entirely *neutral;* and even then it must have an inside edge of white. The use of tinted mats requires considerable judgment to make a *proper* selection, but the *white* ones are "always in order."

India-Ink Work which is *intended* to imitate *an engraving*, must never be margined *by anything else* than WHITE! The juxtaposition of a colored mat (especially if the hue be rather intense) is sure to damage its purity in many ways; reflecting improper tints upon its high lights and giving a sooty appearance in the heavy shadows. The *immediate contact* of *gilt* with Ink work and a pastel ground is death! and *never* to be allowed.

Colored pictures should have a *gilt* frame; if ample white surrounds the painting it will be seen that the white purifies the colors and the gilt purifies the white. In general, however, the frames should not be heavy or too profusely ornamented. A massive frame will almost destroy the effect of delicate work in water colors. Nor should the frame contain too many burnished points to interfere with the vivacity of the colors. For all delicate work, light in tone, a simple gold bead frame with a gold edge to the mat next to the picture is very suitable. But more powerfully and intensely-colored water color paintings, especially if warm in tone, may even be rendered more effective and harmonious by substituting a complete *gold mounting.*

Colored porcelains—especially vignettes—are greatly enriched by the addition of a line of velvet coming between the white surface and the gilt frame. The color should be deep and rich; and the opaque, dull texture of the velvet whilst it gives wonderful purity to the white of the porcelain, also harmonizes splendidly with the gold (gilt) of the

frame. Porcelains require and can bear the very richest setting; reverse this and use a dull *walnut* frame, and the result will be a pictorial monstrosity!

In framing Ivorytypes no *white* paper should be placed in contact with the finished work, as it would "kill" the so-called whites in the picture; and by a prejudicial contrast lower their tone into a degree of unavoidable yellowness produced by the wax-compound. Ivorytypes should *always* have a rich *gilt* frame, the sight-opening of which will cut the picture.

In all cases the artist *should* be allowed to select or advise the choice of the frame; or should be informed beforehand—in case the frame has been selected—in order that he may paint with a view to the influence of the frame, especially if the picture in hand is to be a companion-piece to another.

It may be well to say also that the glass of the frame should never be allowed to touch the painting, but be kept away by the intervening mat. Finished work must not be hung where it will be subject to extreme heat or cold, dampness, or foul air, because they are subject to deterioration from these causes, if not to ultimate ruin.

As the beauty and value of the jewel is enhanced by the setting it receives so is the character of a picture improved or debased by the manner in which it is framed; and in violation of the *principles* upon which *good framing* is based, it is to be regretted that the educated eye is too often pained by evidences of the most deplorable ignorance among those who should *study* to *know better*.

Memoranda of Practical Art.

In the preparation of this work many art-truths and other memoranda were incidentally suggested and culled from various sources, which cannot be properly included under any special heading; maxims derived from recognized prin-

ciples of the art of painting, and brief instructions easily remembered.

These we propose to add herewith, although it is quite probable some of the *ideas* may have been previously given. It is not unlikely, too, that *the beginner* may fail to comprehend the import and use of many of them *at first;* but as he progresses in *practical ability* he should make an effort to increase his *theoretical knowledge* also, until his hand and head shall work together understandingly, harmoniously, successfully.

Endeavor to preserve transparency in all the shadows.

All retiring parts partake more or less of gray.

The high lights of flesh should be of a yellowish-white.

Strong shadows should be warm; those of flesh (which is semi-transparent) always incline to red.

All shadows of flesh must have gray edges. This prevents hardness and gives a rich effect.

The reflected lights of flesh are warmer than the surrounding parts.

The darkest parts of shadows are near their edge, the middle being illuminated by reflected light.

Flesh, as it retires from the eye, appears to grow colder in tone.

A judicious subordination of the half-lights to those which are more prominent, insures brilliancy.

Lights are less affected by distance than shadows, which grow paler as the distance increases.

The highest lights have generally but little color, for all color is a deprivation of light.

Contrasts give brilliancy of effect, but they should never be violent or inharmonious.

Colors should be laid with as little rubbing of the brush as possible, in order to keep them fresh and bright.

Strong color requires rich, deep shadow to support it.

Every part of the background should appear to retire from the figure.

As a general rule, in mixing compound tints, always begin with the predominating color, and add the others to it.

Make all cast shadows of one tone, and always warm (except at the edges) varying of course with the local tint.

The eye is the proper judge of color, and the perception of color is a natural gift.

The eye requires some repose, and is fatigued by an object overloaded with ornament.

The first requisite in every picture is, that it should tell its own story.

Depend upon simplicity of arrangement for certainty of effect.

Accessories should be subordinate to color, light, and effect, with respect to the head.

Two folds of similar size and form should not be near each other.

Most things that are gaudy are vulgar; and much that does not seem so exceedingly vulgar in nature will appear so in a picture.

A photograph, to be painted *according to art*, ought to approach as near as possible to a miniature, and lose its photographic appearance entirely.

The shadows, and gray and pearly tints, must appear to lie *upon* the flesh, instead of *under* it, as they really do occur in nature.

Portrait and miniature painters invariably place their sitters *higher* than themselves; photographers almost invariably, and improperly, do the reverse.

The less of any "medium" or "vehicle," except pure water, which the colorist uses, the better his work will be likely to appear.

"Prettiness" in painting is not art, and excessive finish

is purely mechanical; the most accomplished painters have executed their finest pictures with apparently little labor.

Nature relieves one object from another by means of light and shade; and we find everywhere light opposed to dark, and dark to light.

Every gradation to shadow is a gradation *from* color, and the color in shadows, therefore, should never be too bright.

The style of execution should vary with the subject, to aid in expressing character; vigorous and bold in men, delicate and tender in women and children.

Avoid harshness. Let every line be softened as in nature, where, though the boundary of sight is distinctly marked, there are no positive outlines.

When the outline of a figure is ungraceful, it may judiciously be lost to some extent in the shadow of the background.

Massing lights and shadows together will insure breadth and grandeur of effect. A skilfully-managed background will greatly aid this result.

The most careful manipulation and elaborate finish will be ineffective, without constant attention to a sufficient preservation of breadth of light and shade.

Do not make it a rule to begin and finish any particular part at once; but keep the picture together—get every part of it *in* before you begin to finish.

Keep reflected lights warm, unless the object from which they are derived is visible; in which case they will partake of its especial tone and color.

All colors, simple or compound, have a tendency to tint surrounding objects with a faint spectrum of their complementary color.

It is preferable that yellow should predominate in a picture rather than white, though yellow should always be in less quantity than blue and red.

The intensity of tones of colors should be equal in the same composition; but a dark and light hue may be used together with good effect.

A great quantity of the same color in one part, and little or none of it in another, are fatal to the general effect, and disturb the balance of colors.

Large masses of one color should not catch the eye; it should receive, at the same moment, the combination of several colors.

Color should be kept pure and transparent, truthful to the subject, and harmonious both with each other and the nature of the picture.

The shape and composition of a picture should, as far as possible, harmonize—not contrast with—one another; and the selection of both should be consistent with the subject.

An appearance of dexterity and ease is attractive in every art, and in none more than in water-color painting: the labor with which the effect is attained should be hidden.

It is not by the great variety of tints that fine coloring is produced, so much as by judicious combinations and the manner in which those are employed.

Colors that are most agreeable to the eye are such as the eye has become accustomed to from their constantly being presented to the sight.

White and black can be reconciled only by the interposition of gray; and red and blue, by the presence of a third color, combining the properties of warm and cold.

The object of all photographic representations of persons being to secure an exact *likeness*, remember that the *head* is the principal object of interest, and everything else must be done with an eye to set *that* off to the greatest advantage.

The color of most objects is best discerned in the middle tints; strong colors are reserved for the parts nearest the eye; receding objects are fainter in color than those near the eye.

Keep your brushes clean by frequent washing, but never leave them standing in water, nor allow them to dry charged with color—especially body-color.

In the consideration of a picture or any work of art, a motive or subject is implied; and clearly to express such motive should be the leading object in its composition or arrangement.

As the general color of the atmosphere is supposed to be *blue*, distant objects lose much of their local color and assume more or less of a gray tint; and details become less distinct until they are totally lost in the distance.

Painters usually throw more light upon the heads of children and women than they do on the male head, which is better suited to a depth of shadow. Heads of aged persons, of both sexes, should likewise be placed in a full light, as it tends to soften and subdue the permanent markings of age.

In water-color painting the first colors should always be bright and pure, because they may be easily lowered to the desired tone; but if their purity is once sullied by admixture with other colors, their original brightness can never be recovered.

The presence of yellow in the vicinity of red and blue, or a small quantity of that color interposed between them, has the good effect of preventing their borrowing from each other, and appearing purple. The interposition of white has a similar but colder effect.

The dash and decision of execution which so frequently attracts our admiration in works of art, in which the will and the way of their accomplishment appear as a single impulse, are often more the result of preparatory study and forethought than is generally suspected.

It is not a good manner of working to stick at one picture until it is completely finished; but far better to have more than one on hand, as by this means when your fresh eye is brought to each picture in its turn, it will at once detect

points that may be improved, but which your jaded vision had before overlooked.

Red and green are not variety, but *contrast.* It is only rarely and in the smallest possible quantities that nature allows herself any violence of contrast, whilst her incessant endeavor is after *variety.* If a face is excessively fair and delicate in color, the hair and eyes are correspondingly light.

Breadth of effect is obtained when the lights of a picture are so arranged that they seem to be in *masses*, and the shadows are *massed* to support them, so that the attention of the spectator is powerfully arrested, and his imagination excited to supply the details.

Mannerism in art may be described as any peculiar way of treating or handling pictorial subjects; the work being executed in one unvaried manner, arising doubtless from the limited ideas of the artist, or a want of facility or variety in the way in which he embodies them. Avoid it.

Every color, as well as every thing, is good and useful *in the right place;* it is only the excess that is disagreeable or hurtful. Some sooner appear unnatural or stronger than others. A constant recurrence to any one favorite pigment or tint for effect is apt to beget *mannerism;* it then becomes worse than useless; it injures instead of improving.

That the picture should consist of *both* warm and cold colors, seems as indispensable as that it should have light and shade; but, which shall form the light and which the shade, is entirely at the option of the artist. It is, however, necessary that they should have separate situations, and also unite both extremes of the work by an exchange of portions of each color.

The proper situation of strong color is neither in the high lights nor in the deep shade, for it would destroy the character of either; but, if it is made use of as an intermediate link, it will unite both, and at the same time preserve a greater consequence. Whether it is to be warm or cold,

must depend upon the color of the principal light, of which it is to be considered an extension, conveying its influence into the darkest recesses.

Pictures cannot be painted by rule; for rules themselves are *derived from* pictures, rather than pictures from rules, precepts, or books. If, in viewing a painting, the attention is involuntarily drawn to a fine or a bad effect, the mind of the zealous student will at once endeavor to perceive *by what means* the fine effect was produced, or by the disregard of what principles the bad effect resulted. Thus he will naturally originate rules for his own guidance, by which he may be able to imitate the one and avoid the other.

"Dirty tints" in coloring express that the tone neither represents true light and shade nor yet true coloring; dirty tints are most frequently the result of inexperience or timidity in using colors; thus, passing wash after wash of various pigments, without attention to their differing qualities, will soon produce this disagreeable result. To prevent it, the student should make experiments with his pigments, and thus learn beforehand the result and effect different washes or mixtures will produce.

To prevent any one color from becoming conspicuous, it must be harmonized into others by gradation, and not be too violently contrasted by complementaries or inharmonious tints. A color out of harmony may be quite, if not more conspicuous than one contrasted with its complementary, only the effect will be disagreeable instead of agreeable. A color becomes conspicuous when it is decidedly unnatural or out of place, as blue in trees, or pink on walls. So in the human face, the same amount of color which placed on a lip is scarcely noticed, if removed to the nose becomes strikingly conspicuous. A single spot of color in a landscape may often appear too prominently, unless *repeated* by other smaller and more broken portions.

Conclusion.

Leaving to the student the instructions contained in the foregoing pages, we desire to remind him of the necessity of *constant practice*, and the advantage to be derived from *the examination and study of good examples.* Be not discouraged by the difficulties which may appear to loom up between the beginner and the expert painter; the process of coloring photographs is by no means so difficult as might be at first supposed.

Commence upon unobjectionable photographs, so that there be no deficiencies in them to increase whatever difficulties may attend your first efforts.

Endeavor to *comprehend* your work. Judge well among the lights, which are those that possess the first degree of brightness; and so also among the shadows, which are those that are darker than the others, and in what manner both mingle together—remembering that these lights and shades must be finally joined without hard lines of definition, and with artistic effect.

Do not in the first place attempt the execution of pictures too large or complicate; and, as this book covers the whole range of *practical* work, save time by seeking its *instructions* constantly, rather than venture upon *experiments* of your own. Remember that the foregoing contents, prepared for your guidance, cost others years of labor and study, and that, in all probability, it is fully competent to assist the diligent student in every emergency.

To such as have studied this little volume with a conscientious desire to accomplish in themselves the purpose for which it was written, we would submit for their guidance the following important points:

First.—SYSTEMATIC WORKING will accomplish much in the end, although, as the student has already learned, the various qualities of tone in the photograph will not always

permit the adaptation of the same methods. But he can devise his plans, and have them ready for application to light or dark prints respectively, and thus *know beforehand just what to do.*

Second.—CAREFUL HANDLING will economize time and labor, obviate the necessity for alterations or corrections, preserve the purity and beauty of the colors, and give character to the work. The very soul of water-color painting is *to know what to do*, and then to *do it* AT ONCE! The possession or the want of this quality will be easily perceptible, to a discerning eye, in every man's work. Different from oil painting, water-color allows no experimenting, no patching, no corrections of any importance.

Third.—DETERMINATION to surmount all difficulties, if it can be done by study and practice. Strive to combat disappointment, if such a feeling attend your earlier efforts. Try to obtain *new ideas* from the more perfect works of others who are recognized as proficients, and let every picture of your own contain points which indicate *an advance* of your efforts at least one step farther.

Finally.—PRACTICE, based upon the directions given, *must* result in enabling the student to soon familiarize himself with the exigencies which are incident to photographic painting, and render the work easier; but ultimate *success* will depend upon the individual—his natural capacities, enthusiasm for his art, and a careful resolve to achieve the victory.

PART II.

PHOTOGRAPH PAINTING IN OIL COLORS.

THE coloring of a photographic portrait, whether accomplished in *Water* or *Oil* colors, must necessarily be based upon the same principles, and be subject to the same general laws of color, light, and shadow. The difference between the two processes lies chiefly in the materials used and in their special manipulation—the result being essentially the same.

To those who have practiced in Water Colors it may not be inopportune to remind them that *in Oil* there is no "washing" of local color, and no subsequent "hatching" or "stippling." The application of the pigment—which keeps ever ready for working—requires but one motion, generally toward the worker, and familiar to all. In Water Color the

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NOTE.—This supplementary chapter has been prepared in compliance with many desires expressed to the author and his publishers. It is based very considerably upon the plan of instructions given by the distinguished artist J. G. Chapman, in his excellent work, "The American Drawing Book," but has been arranged and written with *special* applicability to *photographic* painting; together with additional directions derived from the experience of other artists.

successful operation frequently depends on the quickness with which it is done, as in washing; or the regularity, as in hatching; or the cleanliness, as in the proper succession of overlaying tints. But in Oil the process allows deliberation, as the color is slow to dry; the correction of errors, because the color is generally opaque; and many advantages which the water colorist is compelled to do without. Indeed it will be found that, instead of drying almost immediately, *some* of the oil pigments are to be condemned for their obstinacy as *bad* dryers. Owing to this necessity of allowing time for the color to dry, the student should remember that it is not well to press his work on one picture too far at a single painting, but rather have two or three pieces on hand for a change.

In Water Color painting, it has also been noted, *the light* resides *in the white paper* itself, and the colors derive their effect from the manner in which they are projected upon it —whether thin or thick, transparent or opaque; but in Oil the tint of the surface to be painted upon does not essentially affect or control the working, inasmuch as the light is to be found in, or produced by, *the use of white paint;* which must consequently be mixed with all hues in proportion as they approach light, and conversely less as they approach dark.

In undertaking, therefore, to supplement our teachings of the Water Color method with instructions "how to paint photographs" in *Oil*, we shall only furnish the *practical directions*, because it is taken for granted—indeed, *positively assumed*—that the student has already studied and familiarized himself with the *general principles* involved in the various topics under the treatment of Water Color. The same distinctions of hue, as appertaining to the hair, eyes, complexion, drapery, etc., must be preserved; although they are obtained by a different process of manipulation, and sometimes by entirely different pigments.

THE PHOTOGRAPH should be printed on "*plain*" and *not* upon albumenized paper, as erroneously supposed. The former has a "tooth" for holding the color, and in this respect is somewhat like fine canvas; while the albumenized paper is not only objectionable from its being entirely too smooth, but the picture cannot be regarded as durable, since *it* is on the albumen and not on the paper, and at all times liable to crack and peel off.

It should possess a medium tone of blackness, and must be mounted upon a *very stout* quality of cardboard—much heavier than for water coloring—and become entirely dry. Bookbinder's board is the best.

THE FIRST APPLICATION upon the photograph will be a Sizing, which may consist of gum Arabic or Milliner's (white) Glue dissolved in warm water, and applied while warm. It should be of sufficient strength to prevent the oil from sinking into the paper, but not so thick as to render it likely to crack off. It should be tested upon a corner, and if the oil is quickly absorbed, another application of the Sizing, or a preliminary wash of oil will become necessary. The surface should at any rate be rendered non-absorbent to the oil contained in the pigments, so that they shall not depreciate in freshness and strength by drying.

THE PIGMENTS necessary for photographic painting in Oil are variously chosen, according to preference, and may be selected from the following list:

Silver White,	Ultramarine,
Naples Yellow,	Ivory Black,
Yellow Ochre,	Roman Ochre,
Venetian Red,	Rose Madder,
Chinese Vermilion,	Brown Madder,
Raw Sienna,	Cobalt,
Burnt Sienna,	Vandyke Brown,
Raw Umber,	Blue Black,
Burnt Umber,	Antwerp Blue,
Terra Verde,	Asphaltum.

In the selection of his colors the student is reminded that the strength of his palette should not lie in the variety of his colors, but rather in the judgment exercised in their choice, and discretion in using them. The best of painters have set the example of using comparatively few colors. To a beginner, the fewer his colors the more easily his combinations are remembered.

Out of the foregoing color-list *the first twelve* are such as will be found best adapted to a first attempt in painting a head, and may be considered quite sufficient to commence with; and though their number may be increased from the remainder, as the student advances, it is not unlikely that he will return more confidently to the simplicity of his first choice.

Assuming these twelve to be chosen, we remark concerning their qualities and adaptations as follows:

1. WHITE will always be found to occupy the most prominent position. As has already been noted, it is *the light* of the palette. It is placed at the head because it is required in larger quantity than any of the others, and is more accessible during the work. Among the various preparations to be had *Silver White* is most generally used, being in favor with artists everywhere.

2. NAPLES YELLOW varies both in intensity and delicacy. The paler tint is considered best adapted for flesh; that which has a lemon-hue should be reserved for other parts, and landscape. As there are imitations common of this pigment care should be used to procure it of genuine manufacture. Its peculiar chemical properties also require that it should not be combined with other colors imperfectly prepared from iron; and in mixing it upon the palette an ivory or horn spatula should be used, instead of a steel one.

3. YELLOW OCHRE combines in flesh tints in a most delightful and manageable way, and being of a permanent

and reliable character may be regarded as invaluable. It is a favorite color with all painters, and is to be had in many varieties of shade, such as *Roman*, *Golden*, etc.

4. VENETIAN RED is a standard pigment for flesh, as it forms a carnation applicable under almost all circumstances.

5. VERMILION is a dangerous color for beginners, as it requires much tempering and reducing to bring it into harmony, especially in delicate flesh tints; still it is very important and valuable in heightening the brilliancy of the carnations. Until the student attains, by practice, capacity for its judicious management, it should be handled with caution and used sparingly. Of the various manufactures—Chinese, English, French, and Dutch—we recommend the *Chinese* or the *English*.

6. RAW SIENNA, in point of general utility, takes rank with Yellow Ochre; is found of various shades and degrees of intensity; and if used at all in flesh must be done with caution.

7. BURNT SIENNA is a pigment of very great value, and in point of general service occupies the next place to White. When it is had of good quality it can be made to supply the place of the warmer Lakes, whose doubtful character for permanency renders their use always questionable and suspicious.

8–9. RAW and BURNT UMBER are both favorites and both rapid driers. They have, however, the reputation of turning darker in time—a peculiarity common, in a greater or less degree, to all the earths, especially those which require considerable oil to be used in their working.

10. TERRA VERDE is of an olive hue. Combined with White it forms a delicate pearly tint, which may be increased by the addition of a little blue, and is admirably suited for breaking into and cooling the carnations; and in forming half-tints or shadows by slight additions of Venetian Red, or Burnt Sienna.

11. ULTRAMARINE, in its purity is scarcely to be found, and has consequently necessitated the discovery of substitutes, which are to be had in the *French* and *German* Ultramarine. For use in flesh, however, the pigment known as *Ultramarine Ashes* will serve better, and also in other cases where a cool, delicate tint is required. *Cobalt* is much esteemed and employed by many artists. The pigments already mentioned are all considered *safer* to trust to the hands of a *beginner* than *Antwerp Blue*, which from its strength is likely to be somewhat unmanageable.

12. IVORY BLACK is a very slow drier, and should be ground as fine as possible. In forming the tints for painting flesh, the chief use of this pigment will be found in making out the grays and half-tints, especially in the absence of Ultramarine Ashes. There is possibly no color the value and power of which will require so much time and practice to become familiar with as Ivory Black; but the more the student learns of its usefulness the better it will be valued and appreciated. Intense blacks are seldom if ever required, especially in the early stages of a picture.

For properties and adaptations of the remaining ones see their corresponding uses in Water Color, pp. 32–45.

These colors as they are generally purchased in tubes have about the consistency of soft butter, and should be used in that form. In the very outset the student is cautioned against a common fault of beginners in oil (especially with such as have previously worked in Water Colors), *i.e.*, a propensity to render pigments *thinner* by the addition of more oil! It is best to let the oils alone, or if the necessity of mixing additional oil with the color occurs, to do it with the spatula upon the palette. Let the student remember that color, in a condition that it will not stand on the palette—held almost horizontally—can scarcely be in a state to transfer to a picture nearly perpendicular on the easel.

"LINSEED OIL is the best of all oil," said Van Dyke, the great master of portraiture, and his verdict is correct unto this day.

MEGILP is a combination of strong Drying-oil and Mastic-varnish, and about the consistency of well-prepared colors; extremely transparent, agreeable under the brush, an admirable drier, and well known as a "vehicle." Although in Megilp, when used properly, there is nothing to be dreaded, its injudicious use causes great detriment and excites suspicion. It is often impure, is likely to turn yellow, and make the picture spotted.

It must be understood, however, that *but one kind* of oil or vehicle should be used throughout a picture; all its parts should dry as equally as possible, and to this end such colors as are in themselves slow driers should be assisted by some vehicle readily combining with the oils in which they are ground, and possessing in itself no injurious effect on them.

The implements further necessary are:

1. BRUSHES.—These should, of course, be selected according to the requirements of the kind of work. It is recommended, however, to use sable brushes almost entirely on paper, unless *very fine* bristle can be had, and which are advantageous for laying on the opaque and heavy masses, especially in large-sized heads. They may be round or flat, according to preference; the round are probably best for faces. Sable pencils also serve better for the sharper and more decided touches. For general observations on brushes, see page 26.

Just here we would advise the student to refrain from purchasing *Softeners* or *Blenders*, as they are called, and which are too often sadly misapplied in reducing the picture to a flat or spiritless smoothness, in order to produce what is erroneously considered to be an effect of finish! Beginners should eschew them altogether.

The brushes should be thoroughly washed with tepid water and soap (made to a lather) *always* immediately after being used; or if circumstances prevent this, they should be laid in oil until they can be attended to. Wipe them out carefully and lay aside to dry. Never cleanse them with spirits of turpentine, as it deprives them of their softness and elasticity, and renders the bristles and hair brittle.

2. THE PALETTE is composed of wood—mahogany, walnut, holly, maple, or any other hard wood. One of medium size, say 9 by 12 inches, will answer; and should be light and easy to the hand, especially to the thumb. It should always be cleansed after using with oil or spirits of turpentine. Paint must not be allowed to accumulate on its surface, and if it has dried or hardened thereon during the day's work, it must be rubbed off with a rag and oil.

Whenever the Palette contains a superabundance of color which it is desired to keep until another time, it can be transferred with a spatula to a piece of glass, or even writing-paper, and laid in clean water sufficient to cover it; where it will remain out of the dust and keep fresh and soft for several days.

3. THE EASEL, REST-STICK, SPATULA, etc., see page 28.

THE LIGHT for painting in oil should be above the level of the eye, in order to avoid reflection and for other reasons. (See page 31.) Although necessarily obliged to be near the picture in its execution, the effect to be produced when viewed at the proper distance (equal to three times its size) should never be absent from the student's mind. For observations on the handling of the larger sized pictures—such as are adapted to working in oil—see page 139.

ARRANGEMENT OF THE PALETTE.—Having indicated to the beginner what may be considered a sufficient number of colors (in the twelve already described), it now becomes necessary to advise him how to set his palette; because a

proper and systematic arrangement of the colors upon the palette is not only essential for reasons of convenience and cleanliness, but on account of their intermixture from light to dark, or from White through the colors to Black; also guarding against the risk of injurious contact, and forming an easy and agreeable scale to the eye.

Taking up the palette in the left hand, begin by putting Silver White at the very *front* edge; and, for reasons elsewhere given, squeeze out a considerable quantity from the tube—say three to five times as much as any of the other pigments. Then, keeping along the outer edge, place the twelve colors in the order named, ending with Ivory Black at the rear of the palette. It will be seen that, by placing the colors along the outer edge, the centre especially and the inner edge are reserved for mixtures.

CONCERNING MIXTURES, it may be observed, in advance, that it is far better the tints for the general and principal masses should be prepared on the palette with the spatula or knife; trusting to the aid of the brush only in bringing them together on the photograph with as much clearness and precision as possible. Many artists rely entirely upon the brush or pencil in forming these combinations, but it requires a degree of expertness not to be expected in beginners; so that it is better to pursue the first-mentioned course.

MANIPULATION.—1. The brush being held between the thumb and two first fingers (see p. 45), the motion to be used in general is simply that of closing the hand or drawing the brush *toward* you. There are also other ways of using the brush in oil-painting, but unnecessary to refer to here.

It is, however, very essential that the student should understand how to work the two following processes, viz.:

2. GLAZING is a term used to express the passing of a

darker color, reduced with oil or some other transparent vehicle, over a lighter one, in order to heighten the brilliancy of the tints; giving thereby transparency and force to the shadows and bringing the whole to an agreeable and harmonious tone. It rather implies the use of those pigments which are *transparent*, such as Yellow Ochre, Raw and Burnt Sienna, all the Lakes, Asphaltum, &c.; but all colors except White are more or less available in this respect, according to the addition of a greater or less quantity of oil or Megilp. Glazing must *never* be done unless the previous working is entirely dry.

3. Scumbling is the opposite process of Glazing, or the passing of a thin layer of a *lighter* over a darker tint, and is applied to parts which are too forcible in color. It is necessary, however, to be cautions that the operation of scumbling does not go so far as to produce opacity, instead of simply modifying the part, rendering it cooler and less defined. By this means "atmospheric effects" are also obtained. The previous color must first be completely dry.

Combinations of Colors.—Let us now undertake some practical combinations with reference to painting the flesh.

The palette having been supplied with the twelve chosen pigments, let us form a general *flesh-tint* composed of White and Venetian Red, further warmed to whatever degree is necessary by adding Yellow Ochre or Naples Yellow. From this, as a basis, other flesh-tints may be prepared by increasing its intensity, as suggested by the study of the individual to be painted. We next proceed to make combinations from these tints by adding neutralizing colors—one of the blues, Terra Verde, and slight portions of Ivory Black—in small quantities until we have a set of *neutral tints*. Thus again, in like manner, may be formed the half-shade and stronger *shadow-tints*, by a more liberal employment of the Umbers, Burnt Sienna, and similar pigments—remembering that as

there is really no blackness or opacity in flesh, these tints must be kept clear of that effect. For the *high-lights* we have recourse to the first-mentioned general flesh-tint, which must now be heightened with White.

The original twelve pigments still remain for the finishing *touches* (see p. 78), especially if they consist of *pure* color, but these should be used sparingly, and applied with decision.

METHOD OF PAINTING.—The picture having been properly mounted, sized, and oiled, and the necessary combinations formed upon the palette, the student may now proceed to the actual operation of painting a photograph in Oil.

This all presupposes, however, either the presence of, or a perfect acquaintance with, the original of the photograph; and also the possession of a duplicate picture (see p. 53) to assist in maintaining the original drawing after the photograph shall become lost to sight as the painting advances.

First, mark out the principal lines and shadows with Burnt Umber, Burnt Sienna, or any transparent brown, as a basis for the after-colors, as well as to overcome the blackness of the photograph. Then proceed with the flesh and other tints, with the *intention* that but one painting, or two at the farthest, shall complete the work.

Whatever objections may be urged against the method of painting "*at once*"—in which it is endeavored to accomplish as much as can be done at once, leaving as little as possible for an after-process—it is the safest for one as yet a novice in the use of color. It is useless for the beginner to harass himself about the nicer processes of painting, and the surest way is to seek at first all he can by the most simple and direct methods.

In the matter of painting photographs in Oil we are unable to perceive the reasons *why* a picture on a comparatively smooth basis, such as a photograph on paper, should be subjected to the same mode of treatment as if it were

projected upon the rougher surface of canvas; and consequently we do not acknowledge the propriety of the traditional "first" painting, "second," and "third."

On the contrary we advise the student to paint from the beginning as if he designed to complete it forthwith! Upon a paper surface the three paintings would be found unnecessarily heavy, while at the same time the other extreme must be avoided—the work must be *finished*, but should not be *fine* or smooth.

Care should be observed in the beginning to lay on the tints without overloading them, an error into which the inexperienced are quite likely to fall. However desirable it may sometimes be to secure a "body" of color it is better to effect it by degrees. The masses should be put in at first, leaving the highest lights and darkest parts for the last.

If the working is carefully and judiciously done at the outset—that is, the colors laid in their proper places, the drawing maintained, and the lights and shadows harmoniously graduated—the after-working will consist of simply *improving* what has already been done. It may be necessary to regulate the tone of the colors, to load some color here and smooth it down there, and also to add those lines and "touches" which give spirit and finish to the whole.

The picture having been left a number of hours to dry, when taken in hand a second time it will be found that the surface has become hard and dry, and will not receive color again until it is "oiled out." Notice whether it is entirely dry; then go over that portion which is to be painted upon with a soft brush and oil. If the oil is put on too thickly the superabundance should be rubbed off thoroughly with a linen or silk rag. Only so much should be "oiled out" as it is proposed to work upon, the design being to furnish a surface on which the paint will take more kindly and spread better, and also to bring back the dried color to its original

tint and freshness—it being easier to work upon a fresh than a dried surface.

If, upon taking the picture in hand after it is once dry, it is found that fresh color, especially when laid on thin, does not readily adhere but is apt to "creep"—like water upon an oily surface—the difficulty may be overcome by simply washing it with water—using a sponge or soft cloth, and sometimes adding a little soap (Castile or Toilet)—and carefully wiping it off again. If the whole picture is not sufficiently dry to admit of this, merely *breathing* upon the part to be worked over will answer the purpose. As the moisture of the breath will adhere only to such parts as are *dry*, this method of breathing can also be used to discover *when* a picture is sufficiently dry, without subjecting it to the touch, and showing the state of the work in this respect with the utmost certainty.

Previous Instructions.—In regard to the peculiarities of method, attention to drawing, and details of color with which the painting of the face is to be continued, the student is directed to consult the various chapters already given, concerning the Flesh, Hair, Eyes, Cheeks, Mouth, Neck and Bosom, Hands, &c. Also chapters on the Carnations, Grays and Pearly Tints; Touches, &c. In these (pp. 58–78) he will find ample instructions respecting the location and general treatment of the features. This fundamental knowledge is absolutely necessary, and when thoroughly learned makes the work easy. The student will be easily able to discriminate between the *use* of the pigments in Water Colors and Oil if he understands the *effect* of color which those chapters aim to teach; for it is quite obvious that after the *idea* of color is comprehended and becomes fixed in the student's mind, his genius, enlightened by study, will guide his perception in a proper selection of the pigment with which to *realize that idea* upon the photograph.

OIL AND WATER COLOR PIGMENTS.—If a comparison be made between the pigments used in Oil and Water Color it will be found that the majority of them are common to both schools; and that the principal difference lies in their treatment. Remember particularly, that in *Oil*, colors are heightened in proportion to the amount of White, and lowered or broken according to the amount of Black, used in their mixture—whereas the *tone*, for the most part, exists in the color itself. With few exceptions, the adaptations of the pigments are essentially the same in Oil as in Water Colors, so that to enlarge upon them here would only be a repetition of what has been already given.

The prominent exception is *Indigo*, which, although so very useful alone and for mixtures in Water Color, is not used at all in Oil; and instead of the Compound Black (of which Indigo is the principal constituent) for black cloth draperies, Ivory Black or Blue Black must be used. The shadows of black drapery ought to be warmed with a brown, red or yellow; so also those of white drapery being made with Black, should be toned with Burnt Umber, Burnt Roman Ochre, or a little Yellow, according to circumstances.

BACKGROUNDS.—The matter of backgrounds has also been fully treated in general and particular—see pp. 101–107—and the student will find it comparatively easy to handle this part of his work in oil. In bust pictures especially it only requires a selection of colors which will harmonize with the head and drapery, and give good relief; the handling and graduation of them is very simple.

CRACKING.—It has been already remarked that *but one kind* of oil or vehicle should be employed throughout a picture. All *dissimilar* mixtures should be avoided, because it is the use of these that most commonly produces cracking. A heavy body of color may be laid at once upon a well-dried under-preparation without risk, but if various oils have been used they are not likely to dry instantaneously and to the

same extent. Consequently, after the picture is varnished (perhaps years after), and supposed to be complete, the varnish and the colors that were applied last will yield in cracks to the under-color which may have been retarded by a slower drying oil or vehicle. Hence arises the great importance of using but *one* equally firm and reliable oil or medium of color throughout a picture.

VARNISHING.—Mastic-varnish diluted accordingly with Spirits of Turpentine is the most generally received and almost universally adopted for bringing out the work when completed; but should neither be too strong, nor laid on in a quantity beyond that which may be required to bear out the colors, and give it an even surface.

It has been advised by some that so long as the surface of the painted photograph is even and glossy it should not be varnished; but when it becomes uneven or spotted—that is, some parts of it hard and dull whilst other parts still look fresh—it is *necessary* to do so. As this contingency, however, depends upon many circumstances during the process of painting, the student must decide for himself after the work has had *ample time* to dry. On this point it should be known that the picture, especially in the earlier stages of its progress, cannot be too freely exposed to the drying influences of both air and sunshine. It is a bad practice to turn pictures to the wall while drying.

Previous to varnishing, the picture should be *thoroughly cleansed*, not only from dust, but any other impurities, greasiness, etc. It should be in condition to insure the adhesion of the varnish; if otherwise the varnish will creep and sometimes even granulate in hardening. This cleansing may be effected by washing with water alone or a little *weak* soap and water; afterwards wiping it *thoroughly dry* with an old silk handkerchief. Then to avoid further risk dry it in the sun or before a fire for a few minutes, and while still

warm the varnish should be applied. If the varnish itself be slightly warmed it will flow better.

In applying the varnish lay the picture down, face upward, and let no dust or motes fall upon it. With a broad and not too coarse-haired brush, lay on the varnish as rapidly as possible and be sure to *finish completely at once*, so as never to go back for retouching. Some think that the varnish should be *poured on* the picture and spread with the brush at the same time, instead of transferring it from a cup to the picture by lifting it with the brush; but *we* advise the first-named method as safer and better.

It is not unfrequent that *professional* artists assume a sentiment of contempt for the painting of *a photograph* in Oil! Although willing to recognize the fineness and incontestable beauty of water color as applied to the small-sized photographic pictures, they are scarcely willing to acknowledge the *legitimacy* of oil-painting *upon a photographic basis*. In the face of this, however, it is a well-known *fact* that even artists of first-class standing *use photography*, variously applied, as an important help to their drawing and lighting—though begging *excuse* on the ground that, in so doing, it saves valuable time to the sitter—which is undoubtedly true.

Let no animadversion of this kind, however, deter the student from his honest aim to accomplish, by careful attention and diligent study, a successful fulfilment of the purpose for which these humble instructions are designed.

PART III.

RETOUCHING THE NEGATIVE.

AFTER the lapse of much time and the exertion of zealous effort toward the improvement of photographic processes, with a view to the attainment of perfect negatives which should require no subsequent artificial retouching, we find that—at any rate, in portraiture—it is impossible to insure perfection without having recourse to some artistic help.

The process of retouching the negative in such manner as to render it capable of producing a print of the finest description possible, originated in Germany, and has been practiced for a number of years; but it was not until 1866 that the first method of operating was described by M. Rabending, who thus directed special attention to the subject. The palpable excellence of the process secured a rapid adoption, until it has now become one of the most conspicuous

NOTE.—In the preparation of this chapter, the author has thought it would be more desirable and beneficial *not* to limit its contents to any *one* method, but rather—in consideration of the various processes given by distinguished professionals—to make an *epitome* of these, and leave the student to adopt whatever may appear best suited to his own case.

features in the present advanced condition of the photographic art.

The manipulation of the photographic image on glass will be found to be a very much more difficult operation than the treatment of a print upon paper; and although there is nothing to prevent great improvement from the most humble attempt, it is plain that the higher results can only be achieved by those who understand light and shadow, and are most competent in drawing the facial muscles. Further advantage is to be derived from a knowledge of the printing qualities of a negative, ability to perceive just *where* the improvements are required, and what effect in the finished print every touch put upon the negative will have.

With respect to the various processes of manipulation applicable to this purpose, different styles will naturally suggest themselves to the intelligent operator—whether by stippling, hatching, or a combination of both. The process mostly adopted is that of stippling—for general instructions in which, see page 50. "Stippling" is working with the point of the brush in small dots; but in this case the dots must not only be very small, but very faint, the color being used sparingly, for it is always better to go over the part to be filled up two or three times, than to try to do it at once with strong color—as in the latter case the touching will be visible upon the print.

The requisite materials and appliances are principally as follows:

1. *The Retouching Frame*, of which there are a number of different sizes and styles to be procured. The opposite cut represents the one made by the American Optical Company, New York, and seems to have more advantages than any other. This frame, properly adjusted, is to be placed before a window; North light preferred.

2. *Black Lead-Pencils.*—The most desirable ones are manufactured by Faber; they are known as the "Siberian,"

and are made of the splendid graphite of the Briskal Lake. They are lettered or numbered according to the degree of hardness, and can be had in great variety. No precise directions can be given to the student; *he* must make his selection according to the work to be done. Those generally adopted range from No. 1 to No. 6. *Sand-paper* is used for obtaining the finest points.

3. A *stump* for applying powdered lead. The regular crayon stump being both too soft and too thick, special ones may be provided thus: Take a piece of unsized (printing) paper, neither too hard nor too soft; cut a strip about eight inches long, two inches wide at one end, and a half inch at the other; turn the small end over between the thumb and forefinger, and roll it up tightly into a hard roll or stump. A little practice will soon enable you to regulate the making of a sharp or a dull point, as desired; further sharpening can be done with a piece of *sand-paper*. Fine blotting-paper, several thicknesses pasted together with starch and rolled up, is also recommended.

4. *Sable Brushes* of the smaller sizes. Very soft ones are preferred for the reason that the color must often be applied very thin and nearly dry; and in such cases a stiffer brush will not keep a sufficiently fine point, owing to the little moisture.

5. (*a.*) *India-Ink.*—Although it would be better if it *could* be used alone, it is *necessary* to use something as a *size.* Mixed with Gum Arabic, it is very apt to crack off in the printing-frame when it becomes heated; and if mixed with too much sugar (to prevent this cracking off), it will adhere to the paper when it becomes damp. It can, however, be used with certainty when the gum solution is composed of six parts of Gum Arabic with one part of *Rock* Candy, and this will have about the right consistence.

(*b.*) *Water Color Pigments.*—Of these a great variety have been recommended and used by different workers, viz.: Indian Yellow, Prussian Blue, Indian Red, Carmine, Lamp-black, Indigo, Ivory Black, Dragon's Blood, Payne's Gray, Cobalt and Indian Red, White and Sepia.

(*c.*) *Negative Film.*—It is some trouble to prepare, but it is recommended as a perfect match to the color of the negative itself, and the only care need be to keep the true gradations of shade. Get the films of several spoiled negatives which have been fixed, but *not varnished;* these are dried and pounded in a mortar, and then ground well upon a plate or piece of glass with a little weak gum water and sugar, just enough to make it adhere. The grinding must be *very fine* or it will work lumpy.

6. *A Magnifying Glass* (see page 29) and *Opaque Paper* (black or green preferred) with which to cover the ground glass and the negative, except the portion being worked upon, thus masking out the unnecessary light and glare which in a little while would become wearisome and hurtful to the eyes.

7. *Preparation of the Negative-surface.*—This can be accomplished in different ways, but it is necessary to mention only two.

(*a.*) By the application of a suitable *Varnish.* It is a known fact that any negative varnish allows of a slight retouching with soft pencils, but special preparations have been suggested for a more complete accomplishment of the purpose. We append a few:

Twenty grains of Gum Dammar dissolved in one ounce of Benzole, floated over the negative and allowed to dry spontaneously. The Benzole will readily dissolve the gum in a few minutes, and then it should be carefully filtered and applied cold.—*Tunny.*

Shellac, one-half ounce; Sandarac, one-quarter ounce; Rectified Spirits of Wine, five ounces. These proportions may be varied considerably without affecting the result. If applied to a *cold* negative it will yield a dull coating like ground-glass, with a hard, granular, biting surface. If the negative be warmed the proper surface will *not* be obtained.—*British Journal.*

Absolute Alcohol, thirty ounces; Sandarac, powdered, five ounces; Camphor, crushed small, one ounce; Venice Turpentine, two ounces; Oil of Lavender, one and a half ounces. For use, this is to be reduced with either weak alcohol, or strong alcohol to which one-twelfth water has been added.—*Von Gœtz.*

(*b.*) By the application of certain substances, which being rubbed lightly over that part of the varnished negative-surface to be retouched, takes off the brightness of the varnish, and produces a mat or toothy surface, without the least injury to the collodion film beneath.

The materials thus far recommended for this purpose are Pumice Stone, Resin, Prepared Chalk, and Cuttle-fish Bone, all finely pulverized. Dropping a quantity of the substance (according to the amount of surface to be worked) upon the varnished film—which should not be too thin—it must be gently rubbed over with the ball of the finger, using a circular motion. The finger should be held nearly perpendicularly and pressed down with some weight, for if the rubbing

is done horizontally the result is a polished rather than a granulated surface. The surplus powder is afterwards to be well taken off with a camel-hair brush or a soft rag, and may be used again. When held against an intense light and viewed as a transparency, fine hair lines are visible upon this part of the negative, but they have no effect in the printing.

MANIPULATION.—Having been provided with a strong proof-print from the negative, and the negative itself placed within the retouching frame and in a proper light, by comparing the two it is easily perceived just what corrections are desirable and what change it is practicable to make. The pinholes must, of course, be touched out completely with Ink or color, which should not, however, be used in such depth as to exceed the degree of opacity in the film roundabout.

Many of the larger semi-transparent spots may next be reduced in brightness, and a general graduating of the inequalities, with such pencil as the operator may prefer. A "3 H" Faber pencil will answer to remedy these in the shadows, as there is less filling up to be done; and a "1 H" should be used for the light side of the face, as the spots are deeper there, the surrounding film being thicker. Due caution should also be exercised in obliterating spots and freckles, that the covering be no denser than is *just necessary*, and that it should cover *no other portion* than *the exact spot*, otherwise there will appear in the print a light circle around it, from the overlapping of the color or pencilling. This would only necessitate retouching the print, whilst the aim should be to leave little or nothing to be done on the photograph itself.

If the line along the nose is very narrow and black, a fine brush and Ink will be found better adapted than the pencil. It must be filled in with *thin* Ink (and gum), care being exercised not to fill it up entirely, as this would cause it to

show white and at once destroy the modelling and the likeness, which must not be disturbed.

If the shadows under the eyebrows, nose, ears, chin, and other places, where it is desirable to have them lighter and more transparent, are smooth enough but *too dark*, do not attempt to reduce the heaviness by stippling, for the probabilities are that the work will result in an uneven collection of light spots, giving the effect of a diseased skin. But rather take a "6 B" pencil, which is very soft, and scrape off a sufficient quantity of the lead on a piece of paper. Fill the stump, and go gently over these intenser shadows wherever they exist, and it will be seen how easily and with what great rapidity they can be corrected without affecting or injuring the original drawing and modelling.

Be careful not to have too much lead on the stump, else the first touch upon the negative is apt to show too strongly; it is better to try it first on the edge of the plate and work off the surplus lead. If, as before-mentioned, the stump be overloaded, you will produce a spotted surface, but this must be carefully avoided since it cannot be corrected by rubbing off. Indeed no amount of rubbing with India-Rubber, bread, or anything else will accomplish this; it has merely the effect of polishing. A further rubbing with the pumice-powder is the only means of restoring the spot; but it is best even to *avoid* a resort to this by previous carefulness. If, on the contrary, the stump does not carry *enough* lead at first, go over it again, little by little, until the requisite degree of opacity has been reached.

In addition to this stump-work upon the face, it can also be rendered very useful in lighting up the Drapery-folds, and that portion of the Background—especially in pictures *a la* Rembrandt—where it occurs too dark against the shadow-side of the face.

Take up the pencil again, and proceed to the fine-work upon the face. Commencing with the forehead, soften the

wrinkles by working the pencil in short strokes along the darkest lines. Remember that the lines and irregularities upon all faces are invariably photographed with too great decision and severity, and consequently there need be no indisposition to soften and subdue (if not remove) them, so long as character and individuality is retained.

Proceed next to lighten the shadowed side of the forehead, not by hatching or stippling but by a circular motion of the pencil, bearing on lightly, and working so that the shadow is seen to be filling up, yet without showing the marks of the pencil. Now with the B pencil soften the lines under the eyes, working in the same manner as upon the wrinkles. Then the lines from the wings of the nostrils and the corners of the mouth claim attention; all to be softened but not removed. Having manipulated the lines, creases, and inequalities to a satisfactory condition, the lights upon the shadowed cheek may be strengthened by the same circular motion as was used upon the forehead, being careful to keep them subservient to the higher tones upon the lighted side of the face.

After the resources of the pencil and stump are exhausted there remain sundry additional effects to be produced by the brush and color. The instructions thus far given have referred more especially to the subjugation of asperities almost inseparable from every negative; but aside from the technical aspect of retouching there remains, in artistic respects, considerable latitude—according to the liking of the manipulator. The nose (for example) may be improved in form; the eyes can be opened more, and the high-light rendered more brilliant; the mouth can be diminished by dexterous covering of the folds and corners; the high-lights can be further heightened; the shadows meliorated; and the work further extended to improving artistic defects in details of the hair, drapery, and background.

If it is desirable to obtain additional softness in special

parts of the negative, cover it with a thin coating of Ink or color—according to the effect to be desired—not on the varnish, but *on the back* of the negative.

When the requisite amount of work is supposed to have been done upon the negative *another print* should be made, and if this proves satisfactory and the retouching can be regarded as complete, the negative may be finally varnished with ordinary varnish. This will remove the ground-glass appearance, and restore its original smoothness and brilliancy. There is no danger to be apprehended from the action of the second coating of varnish upon the first, nor any disturbance of the most delicate work.

If, as has been seen, the process of retouching can accomplish so much for a negative from life, it is plain that its operations are much more valuable as an assistant in *preparing work for the artist.* The multitude of old-fashioned and (most of them) badly taken 'types of the various kinds, with all their spots, dust, and scratches, when copied, afford wonderful opportunities! while at the same time the retouching serves to furnish the artist with a basis upon which he can produce better work.

In a weak, flat negative—as, for instance, a copy of a ferrotype—a fine stump and powdered lead can do a very great service; by rubbing somewhat upon the forehead, down the nose, upon the cheeks, under-lip, and chin; and, with brush and Ink make the shirt collar and bosom more opaque. Brilliancy and finish will thus result where all was previously dull and flat.

There is rarely a *copy* made which should not be retouched to a certain degree, and it is not unfrequent that accidental markings and opaque shadows can be easily remedied with the pencil and stump in a few moments, but which, if not done, only torment the artist and serve to mar his work. Retouching, properly done, can scarcely ever fail to repay

well, by the improvement of the print, the time and labor which the operation costs.

In closing this chapter some advice with respect to the *feeling* which should govern the operator will not be amiss. It is so easy a thing to misapprehend the object of retouching, and to abuse the power it affords, that the majority of those who attempt it go quite astray. This arises mainly from a desire to make every part *fine and smooth*, and too often only results in a total destruction of the more delicate shadows.

Few persons will object to the obliteration of a freckle or accidental pimple; *that* would improve the face indeed; but the danger referred to exists in carrying the work *too far*, whereby all truth and character might be "improved" out of the portrait. The *softening* of wrinkles, the *relieving* of excessive shadows, the *toning down* of freckles, warts, moles and other spots is *one* thing; but to aim after the smoothness of a billiard ball or polished table-top is quite *another* thing! Remember that human faces are not made of ivory or marble, but of warm, soft, yielding, velvety *flesh*—resembling nothing but itself. It would be a mockery and a delusion, and lead to the grossest mannerism, to stipple and labor upon a negative so that the resulting picture shall convey the idea of a hard, unyielding *solid*, making every face similar in texture and deficient in individuality. What *was* a well-modelled *picture* of a face would be reduced perhaps to a dead-flat surface, and become only a *map* of the features.

On the contrary, the intelligent operator will perceive that his special work must lie principally in remedying what the camera has failed to do; the too intense shadows under the eyebrows, nose, and chin; the wrinkles and discolorations; all these asperities—which too have been exaggerated rather than mollified— should be subdued and corrected. Great care must be taken also not to destroy the natural softness

wherever the hair and flesh meet; the eyebrows must not be worked so closely as to look as if painted or pasted on.

Finally, the most important point is, that *the result must be enjoyed* whilst *the working itself must be imperceptible.* We hold that, if the manipulation is apparent—when viewed at a proper distance—the retouching is a failure and has come short of its purpose. The mealy appearance and the texture of a diseased skin (before-mentioned) which so frequently passes for "*re*touched" work is only a burlesque, and the negative doubtless had been better *un*touched!

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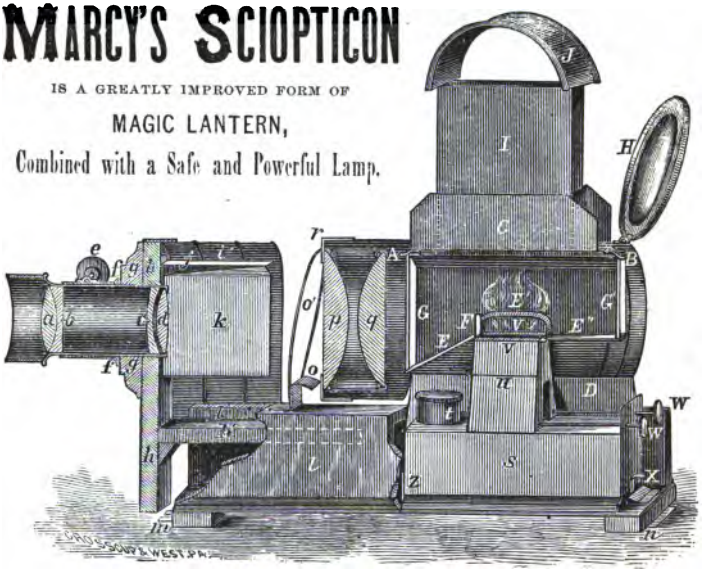

In the above section is represented: *a b c d*, the lenses of the objective; *e*, milled head for moving rack work; *f f*, flange of objective; *g g*, ring to extend the objective; *h h h'*, woodwork of extension front; *i*, portion of hood to prevent escape of diffused light; *j k*, to shut off top and side light when unmounted slides are used; *l l*, portion of frame not necessarily cut away to show internal arrangement; *m*, claw, and *n*, flange to hold the instrument firmly on the stand; *o o'*, picture stage; *p q*, condensing lenses; *r*, ring by which condenser is attached to cylinder; *s*, lamp cup; *t*, nozzle for receiving the oil; *u v v*, parts of the wick tubes; *w w*, wheels for turning up the wicks; *x*, spring for holding lamp; *z*, stop for lamp; *A B*, springs for holding glass in ends of flame chamber; *C*, portion of cylinder turned up to ventilate flame chamber; *D*, portion turned down to attach to frame; *E E' E''*, bottom of flame chamber and deflecting cap; *F*, narrow glass front of flames; *G G'*, flame-chamber glasses; *H*, reflector; *I*, chimney; *J*, chimney cap.

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